

Montana Statewide Angling Pressure 2013

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**Montana Fish,
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**Montana
Statewide Angling
Pressure
2013**

Summary Report

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1.0 INTRODUCTION

Montana Fish, Wildlife and Parks has conducted statewide angling mail surveys for more than 50 years. Bishop (1959, 1960, 1961) conducted the first recorded mail survey of fishing pressure on a statewide basis for Montana from 1958-1960. In 1968 Holton (1970) again initiated the statewide angling pressure mail survey. Holton (1971) conducted another statewide survey for the 1969 license year. No results were reported because it was felt they were too high due to sampling problems. In 1975, Gaffney (unpublished data) conducted a statewide survey of angling pressure by mail. An attempt was made to continue that statewide survey in 1976 using the 1975 mailing lists. This did not provide adequate samples for nonresidents, so only resident pressure was obtained. The surveys were started again in 1982 and run for four consecutive years (McFarland, 1989). In 1986 the surveys were again canceled for lack of funding. In March 1989, the statewide angling use mail survey was again re-initiated, and has been conducted on a biennial basis since that time.

The number of questionnaires in the survey has varied over the years. Between 1989 and 2011, the number has been in the range of 89,000-97,000 for all but two surveys (68,505 in 2001 and 80,125 in 2005). In 2013, the effort was scaled back to 67,603 questionnaires, a drop of 25 % from 2011. The consequence of this change is that it increases error measurements for waters, and decreases the number of waters for which a pressure estimate can be calculated.

The format for every survey since 1958 has been through the U.S. Mail. In 2013, an attempt was made to explore the utility of online surveys using two different approaches. In the first approach, licensed anglers who received the questionnaire through the U.S. mail were given the option to enter angling data online. The other approach was to contact anglers by email and ask them to enter information electronically. This was used for 751 anglers for whom FWP had email addresses. Aside from the challenge of getting people to respond to electronic solicitations, this effort was further hampered by the fact that FWP has an incomplete email address book of anglers.

In the current and previous survey (2011-12) there have been changes made to the maps that accompany the questionnaire, and this is worthy of mention because it has the potential to influence the angler response, and ultimately angler pressure estimates. In 2009, the map shows the Missouri River with a section 10, Holter Dam to Canyon Ferry Dam. The 2011 map was changed to show Holter Lake, then section 10A, Holter Lake to Hauser Dam, then Hauser Lake, then section 10B, Hauser Lake to Canyon Ferry Dam. Holter Lake and Hauser Lake are labeled between section 9 and 10A and 10B. There were no changes in sections for survey year 2013, but maps were provided for the first time for Beaver Creek (near Havre) and the Milk, Stillwater, Boulder, and Tongue rivers.

Contents of the questionnaire changed in 2013. Questions regarding angler satisfaction and crowding were dropped, and questions regarding fishing tackle use were added. The primary purpose of these questions is to better understand the demographics of bait use in Montana. With increased concern over the potential for the movement of AIS (aquatic invasive species), fish pathogens, and undesirable fish species, it has become more important to understand bait-use patterns. A separate FWP effort is underway to evaluate bait-collection practices (through year-end commercial bait seining license reports) to address concerns that bait fish supplies are being locally depleted in some areas of Montana. With a better understanding of bait use and collection, FWP will attempt to revise administrative rules to address these concerns while still providing opportunities to use bait.

2.0 METHODS

2.1 MAIL SURVEYS

The 2013 statewide angling mail pressure survey was conducted during the license year beginning March, 2013 and ending February, 2014. The methods used by R. McFarland for surveys conducted from 1989 through 2009 provided the framework for the 2013 survey.

Samples were drawn from the Department's Automated Licensing System (ALS) on the first day of each month. All anglers who purchased a two or ten day license valid for use in the previous month as well as all anglers who purchased or held a season fishing license valid for use in the previous month were included in the eligible angler population. A computer program was written in ORACLE to create five populations of anglers from which to draw samples. A resident season population, a resident 2-day population, a nonresident season population, a nonresident 2-day population and a nonresident 10-day population were created each month. The licenses that comprise these five populations of anglers are:

1. NonResident 2-day license: enables the nonresident angler to fish for two consecutive days of their choice. Anglers may purchase as many two-day licenses as they want.
2. NonResident 10-day license: enables the nonresident angler to fish for 10 consecutive days of fishing. Anglers may purchase as many ten-day licenses as they want.
3. NonResident Season license includes:
 - combo license - combines a nonresident conservation license and seasonal fishing license.
 - seasonal license
 - deer combo license - includes a deer tag and a fishing license.
 - big game combo - includes a conservation license, an elk tag, a deer "A" tag, a black bear tag, a fishing license and an upland game bird license.
4. Resident 2-day license: valid for 2 consecutive days at a reduced cost.
5. Resident Season license includes:
 - season license
 - combo license - combines a season fishing license and a conservation license
 - sportsman's license - provides a deer "A" tag, elk tag, optional bear tag, conservation license, a game bird stamp and a fishing license
 - "senior" license - 62 years of age and older
 - "youth" license - ages 12 and 14
 - disabled license - certified as permanently and substantially disabled

An ACCESS table was used to pull a random sample from each population. Sampling was done on a monthly-stratified basis (Table 1). The number pulled from each population was proportionally derived from the angling pressure each population exerted based on previous surveys. This proportion remained constant throughout all sampling periods for the past several surveys.

The individual samples from each population (by month) were assigned to a wave (Table 1) and

given sequential serial numbers. The database of names and addresses were run through Pitney-Bowes SmartMailer 7 software program to validate addresses and assign correct 4 digit zip code extensions. Only addresses that passed the mail validation were included in the final sample. This helped reduce the number of non-deliverable surveys. An ACCESS report was written to export the monthly sample data into a spreadsheet for mail merging with the survey WORD document. The merged file contained a single page for each angler included in the sample. This merged file and a separate map file were sent to Print & Mail Services in Helena, MT where the survey was printed (two-sided), stuffed into envelopes and mailed via standard mail.

Wave	Time Period Covered	Season Designation
1	March 2013	Winter
2	April	Winter
3	May	Summer
4	June	Summer
5	July	Summer
6	August	Summer
7	September	Summer
8	October	Winter
9	November	Winter
10	December	Winter
11	January 2014	Winter
12	February	Winter

The 2007 Statewide Angling Use Survey (McFarland, 2009) indicated that residents provide approximately 75% of angling pressure, therefore sampling was done on a 75/25 split between residents and nonresidents (i.e. proportional allocation). The sample size for the 2013 survey was reduced to 75% of the 2011 survey to save on costs. Actual numbers of questionnaires sent varied slightly from wave to wave (Table 2). For the "summer" waves (3 through 7), 8,400 residents and nonresidents were sampled each month. In the "winter" waves (8 through 12), the rate dropped to 4,200 residents and nonresidents. Because waves 1 and 2 had fewer license holders from which to sample, these two waves were sampled at a less intense level.

A single questionnaire was used for all groups. The questionnaire (see Section 6.0 for an example), included questions on: what water was fished; nearest landmark, town, or county; section of stream or river fished (taken from map on back of questionnaire); district in which fishing occurred; number of days fished; number of days fished with a guide or outfitter; type of fishing tackle used; the one fish species they were primarily fishing for; whether most of the angler's fishing was by shore, boat, both or ice. The question on type of fishing tackle was new for 2013 and replaced angler satisfaction and crowding questions included in recent surveys.

To ease the sorting process different colored forms were used for each wave and also for initial and remail mailings. Surveys were mailed "standard pre-sort" for all the waves. This saved monetarily over regular first class postage.

Table 2. Number of questionnaires sent for each wave by residency for 2013.

Wave	Mailed		Useable (mailed minus undeliverable)		Returns (initial and remail)		Return Rate Percentage	
	Res	Nonres	Res	Nonres	Res	Nonres	Res	Nonres
1	300	100	293	93	166	34	56.7	36.6
2	3150	1051	2999	976	1491	475	49.7	48.7
3	6300	2100	5874	1923	2758	927	46.9	48.2
4	6299	2103	5866	1902	2504	896	42.7	47.1
5	6299	2101	5729	1904	2491	876	43.5	46.0
6	6300	2100	5719	1919	2400	888	41.9	46.3
7	6300	2100	5797	1921	2625	909	45.3	47.3
8	3154	1046	2846	955	1269	470	44.6	49.2
9	3151	1049	2819	943	1287	436	45.6	46.2
10	3151	1049	2811	923	1334	398	47.5	43.1
11	3151	1049	2716	868	1646	359	60.6	41.4
12	3156	1044	2735	892	1193	327	43.6	36.7

Remail questionnaires were mailed to those individuals who had not yet responded, from three to four weeks after the initial mailing. Returns for each wave were monitored and when they slowed down to a few each day the remail was sent. Included in the remail were an explanation, (see Section 6.0 for examples), a duplicate questionnaire and a return envelope. Returns were grouped and counted according to type of license (residency), wave and mailing (initial or remail). Surveys returned as undeliverable were subtracted from the sample size.

Returned questionnaires were sorted into those that had fished in Montana during the period in question and those that had not. The "yes" respondents were keyed into an Access database using forms and lookup fields. A record was entered for each stream or lake fished. Both the stream or lake name and the nearest town or county were entered for each record. This data was used to identify a specific watercode for each record. Edits were run to correct invalid water codes and data out of normal ranges.

Phone surveys have been used in the past for the purpose of determining nonresponse bias associated with the mail surveys and making adjustments to pressure estimates accordingly. The most recent phone survey was conducted in 1997. It showed no statistically significant difference in response rate between the phone and mail surveys. No phone surveys were conducted in 2013, so it was assumed that there was no nonresponse bias and no adjustment necessary.

Fishing pressure estimates were made for individual waters based upon the formula:

$$P_j = \sum_{i=1}^n \left[\frac{E_{ij} * D_{ij}}{R_{ij}} \right] * A_{ij}$$

where P_j = Pressure for an individual water by the j^{th} residency

E_{ij} = Number of eligible anglers for the i^{th} wave and j^{th} residency

D_{ij} = Days fished that particular water for the i^{th} wave and j^{th} residency

R_{ij} = Number of respondents from the survey for the i^{th} wave and j^{th} residency

A_{ij} = Adjustment factor for non-response for the i^{th} wave and j^{th} residency

n = number of waves in the estimate year or season

j = number of residency types (resident, nonresident, or total)

The variance was then calculated using:

$$VAR(P_j) = \sum_{i=1}^n \left[\frac{E_{ij}^2 * VAR(D_{ij})}{R_{ij}} \right] * A_{ij}^2$$

Where P_j , E_{ij} , R_{ij} , D_{ij} , and A_{ij} are the same as above.

Pressure estimates between waves and residency were assumed to be independent so variances were summed to obtain total variances. The square root of the variance was taken and this number was reported as the error for fishing pressure.

The confidence interval for the percent of anglers who report using a guide or outfitter was calculated using the formula:

$$\frac{N}{N + Z_{\alpha/2}^2} \left[\hat{p} + \frac{Z_{\alpha/2}^2}{2N} \pm Z_{\alpha/2} \sqrt{\frac{\hat{p}\hat{q}}{N} + \frac{Z_{\alpha/2}^2}{4N^2}} \right]$$

Where N = the number of trips

p = the percent who said they used a guide or outfitter

q = percent who did not use a guide or outfitter

$Z = 1.96$ (a constant)

2.2 ELECTRONIC QUESTIONNAIRE

FWP developed an electronic version of the paper questionnaire for use during the 2013-2014 angler survey. While the electronic version did not have the same physical layout of the paper survey, anglers were still asked to provide the same information. The primary difference between the two was that the electronic version allowed for the angler to pick from drop-down menus when choosing the primary species being fished for, the fish species being used as bait, and the waterbody on which they had fished.

The electronic survey was accessed online through the FWP website, and was used in two situations. From November through February, an email was sent to 751 randomly selected anglers who had provided an email address when they purchased their fishing license. The email directed them to the online version of the questionnaire on the FWP website. The online option was also offered in the mailed paper survey beginning with the June remail. A total of 45,000 anglers were thus given the option of entering their data electronically rather than by paper and the U.S. Mail.

3.0 RESULTS

3.1 ANGLER PRESSURE ESTIMATES ANNUAL (MARCH 2013-FEBRUARY 2014)

Licensed anglers fishing on Montana waters were estimated to have exerted 3,529,077 angler days of pressure for the 2013 license year (Table 3). Residents accounted for 2,315,299 angler days (65.6%) and nonresidents made up the remaining 1,213,778 angler days (34.4%). Estimates for individual waters were sorted alphabetically are presented in Appendix A of this report.

The distribution of angler pressure among Fish, Wildlife and Parks regions (Figure 1) is heavily skewed toward the western and central portions of the state (Chart 1). Region 3 received the most angling pressure with 853,755 angler days (24.2%), followed closely by Region 4 with 762,900 angler days (21.6%). Regions 2, 5 and 1 were next in order and close to each other, with 556,969 (15.8%), 507,823 (14.4%), and 492,548 (14%) angler days respectively. The easternmost regions of 6 and 7 were the lowest in pressure with 250,207 (7.1%) and 93,819 (2.7%) angler days respectively.

Residents (Chart 1) exerted the majority of angling pressure in 2013 in all regions but Region 3. The percent of angling pressure by residents for each region was: Region 1 – 77.4%, Region 2 – 64.9%, Region 3 – 46.9%, Region 4 – 79.9%, Region 5 – 55.2%, Region 6 – 79.5%, and Region 7 – 78.9%. July (wave 5) was, overall, the peak fishing period, while February (wave 12) was the least fished period during the year (Table 4). Both residents and nonresidents fished the most during July (wave 5). Resident fished least in November (wave 9) while nonresidents fished least in March (wave 1).

Angling on lotic waters (streams/rivers) accounted for 63.6% (2,243,164 angler days) of the statewide pressure while lentic waters (lakes/ponds/reservoirs) accounted for 35.7% (1,261,405 angler days) of the pressure and undesignated waters accounted for less than 0.7% (24,508 angler days) of the pressure (Table 3). An undesignated water is one for which not enough information

was provided to assign a water type (lake or stream).

Regions 1 and 6 were the two regions in which lake angling pressure exceeded stream pressure (64.3% and 72.1%, respectively from lakes), although the lake pressure in Region 6 was due primarily to angling on one water (Fort Peck Reservoir)(Table 3, Chart 2). Regions 4 and 7 were relatively balanced between stream and lake angling, although the lake angling pressure in Region 4 was the greatest for any region of the state (352,205 angler days). Regions 2, 3 and 5 were dominated by stream anglers, and while Region 3 had the highest number of stream anglers for any region (700,912 angler days), Region 5 had the highest percentage (83.4%) of anglers that were stream anglers.

Table 3. Angling Pressure in angler days by Region by Lake or Stream for the 2013 angling year.

	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Region 1						
Undesig	1,946	24	665	8	1,280	16
Lake	316,860	3,195	254,648	2,542	62,212	653
Stream	173,742	1,874	126,033	1,356	47,709	518
Total:	492,548	5,093	381,346	3,906	111,201	1,187
Region 2						
Undesig	1,764	28	1,540	26	224	2
Lake	142,774	1,453	106,715	1,099	36,059	354
Stream	412,431	4,472	252,954	2,681	159,476	1,791
Total:	556,969	5,953	361,209	3,806	195,759	2,147
Region 3						
Undesig	2,113	24	1,108	14	1,004	10
Lake	150,731	1,534	89,602	924	61,129	610
Stream	700,912	7,574	309,598	3,332	391,313	4,242
Total:	853,755	9,132	400,308	4,270	453,446	4,862
Region 4						
Undesig	3,469	31	2,463	21	1,006	10
Lake	352,205	3,645	321,752	3,344	30,453	301
Stream	407,227	4,395	284,967	2,912	122,260	1,483
Total:	762,900	8,071	609,182	6,277	153,719	1,794
Region 5						
Undesig	1,620	20	1,523	19	97	1
Lake	82,568	914	66,849	742	15,719	172
Stream	423,635	4,824	211,979	2,381	211,656	2,443
Total:	507,823	5,758	280,351	3,142	227,472	2,616
Region 6						
Undesig	2,802	28	1,551	17	1,251	11
Lake	180,450	1,876	143,144	1,538	37,307	338
Stream	66,954	726	55,684	604	11,269	122
Total:	250,207	2,630	200,379	2,159	49,827	471
Region 7						
Lake	35,555	387	25,896	290	9,659	97
Stream	58,264	672	48,121	542	10,144	130
Total:	93,819	1,059	74,017	832	19,803	227

Table 3. Angling Pressure in angler days by Region by Lake or Stream for the 2013 angling year (continued).

Statewide

	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Undesig	24,508	265	17,356	190	7,151	75
Lake	1,261,405	13,006	1,008,606	10,479	252,800	2,527
Stream	2,243,164	24,537	1,289,337	13,808	953,827	10,729
Statewide Total	3,529,077	37,808	2,315,299	24,477	1,213,778	13,331

Chart 1. Angling pressure by Region and residency, 2013-2014

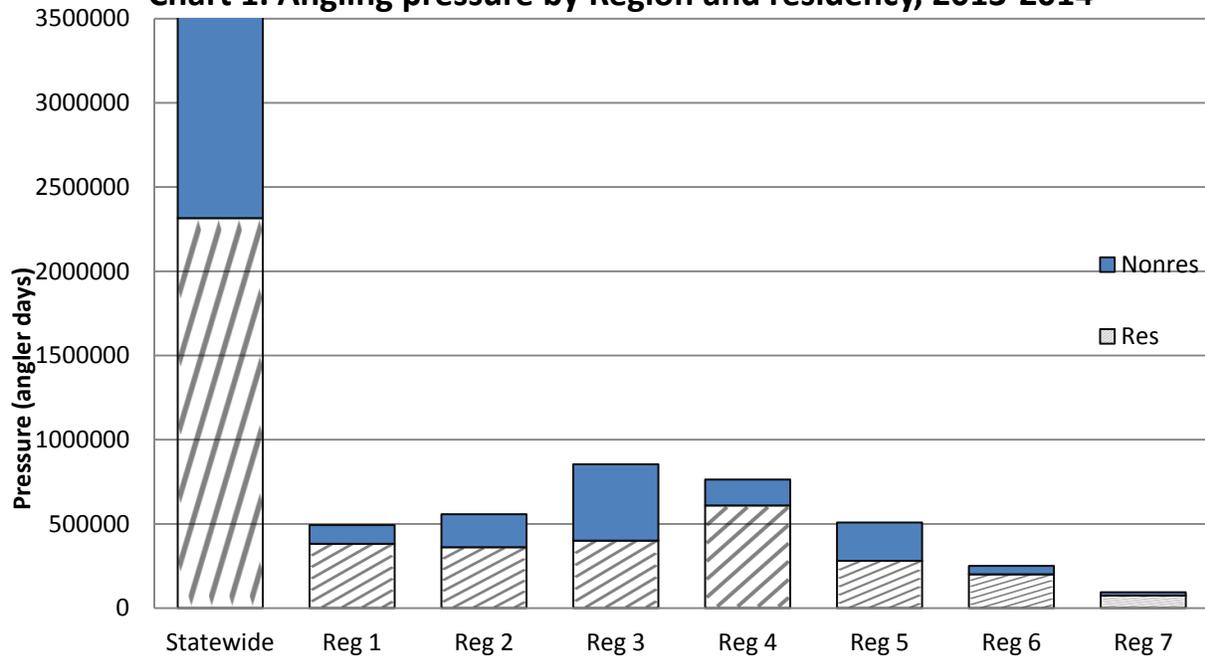


Chart 2. Angling pressure by Region and water type, 2013-2014

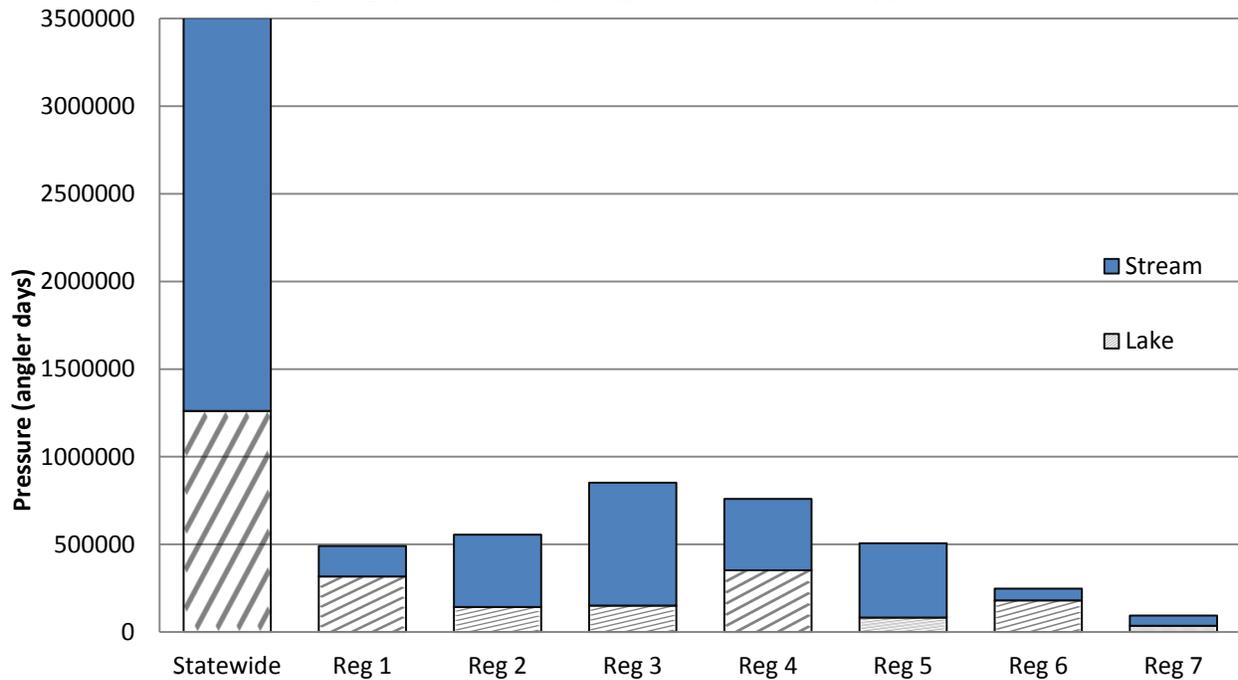


Table 4. Pressure in angler days by wave for the 2013-14 survey.

wave	Month	Total	Resident	Nonresident
01	March	114,085	99,460	14,624
02	April	186,592	134,909	51,683
03	May	315,475	239,938	75,537
04	June	479,067	353,022	126,045
05	July	700,992	472,184	228,808
06	August	586,579	364,806	221,773
07	September	389,728	221,450	168,278
08	October	252,419	126,663	125,756
09	November	134,907	64,302	70,605
10	December	122,156	79,478	42,678
11	January	143,100	92,769	50,331
12	February	103,977	66,317	37,660

Angling pressure was summarized by the 40 major drainages within the state as identified in the 2013 Statewide Fisheries Management Plan (Figure 1, Table 5). The pressure by drainage ranged

from a high of 374,282 angler days for the Upper Yellowstone River drainage to a low of 298 angler days for the Little Missouri River drainage. The drainage with the highest percentage of resident anglers was the Little Missouri (99.7%) while the Madison had the lowest percentage of resident anglers (34.3%). The Marias had the highest percentage of lake anglers (87.1%), mainly due to the influence of Tiber Reservoir, while the Lower Milk had the lowest percentage of lake anglers (1.0%).

Figure 1: Statewide Management Plan Drainages

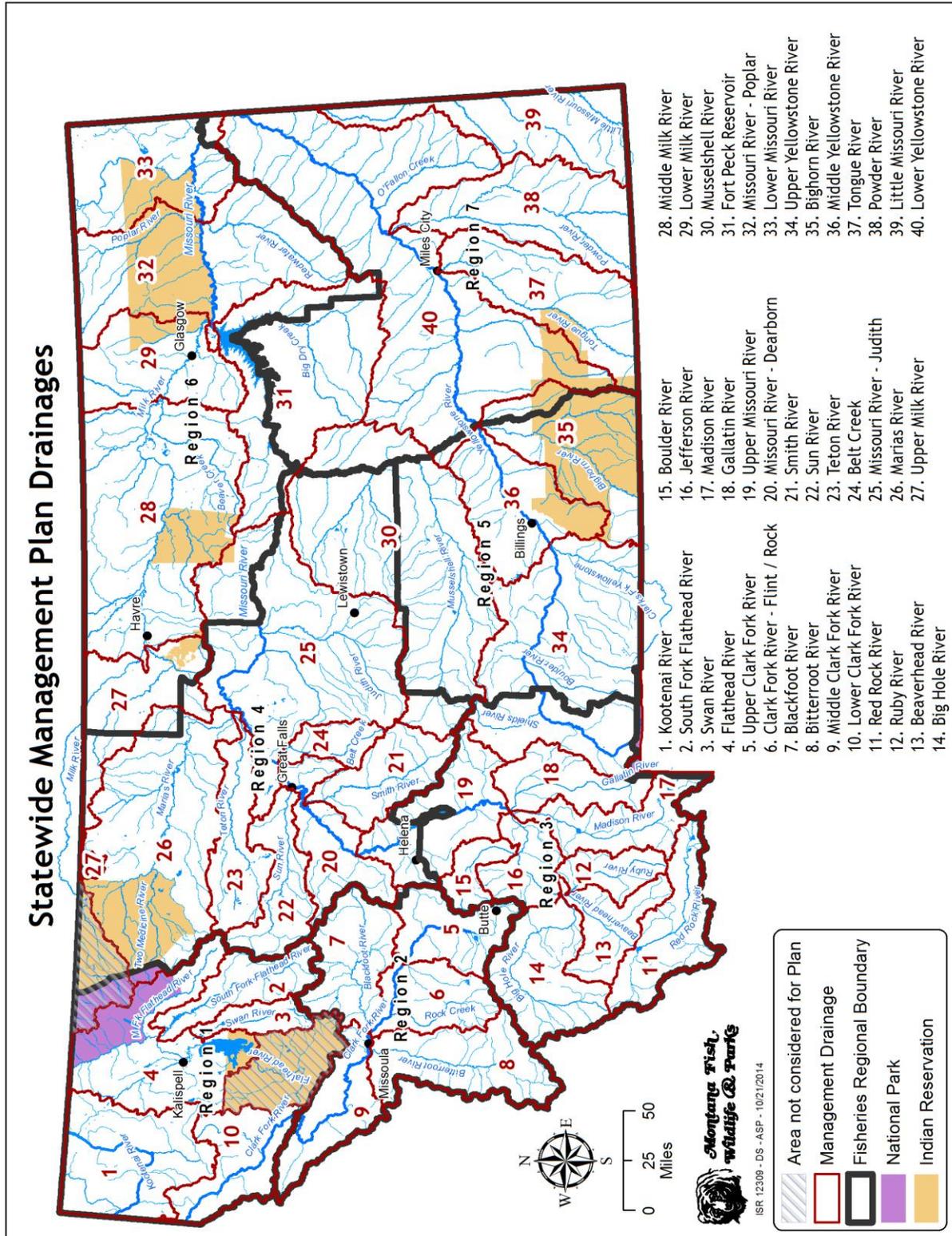


Table 5. Angling Pressure in angler days by Drainage by Lake or Stream for the 2013 angling year.

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Beaverhead River						
Lake	1,004	11	876	9	127	2
Stream	52,732	560	20,305	191	32,427	369
Total:	53,736	571	21,181	200	32,554	371
Belt Creek						
Stream	12,999	140	10,461	112	2,538	28
Total:	12,999	140	10,461	112	2,538	28
Big Hole River						
Undesig	194	2	194	2		
Lake	4,712	51	3,097	33	1,615	18
Stream	96,109	1,130	48,677	592	47,432	538
Total:	101,016	1,183	51,968	627	49,047	556
Bighorn River						
Lake	16,614	183	8,865	98	7,749	85
Stream	204,836	2,391	41,775	469	163,060	1,922
Total:	221,450	2,574	50,640	567	170,809	2,007
Bitterroot River						
Lake	8,109	95	5,508	67	2,600	28
Stream	129,435	1,362	74,666	747	54,769	615
Total:	137,544	1,457	80,174	814	57,369	643
Blackfoot River						
Lake	51,607	528	43,805	451	7,802	77
Stream	84,478	936	56,526	625	27,953	311
Total:	136,086	1,464	100,331	1,076	35,755	388
Boulder River						
Lake	858	10	858	10		
Stream	8,917	98	7,486	83	1,431	15
Total:	9,775	108	8,344	93	1,431	15
Clark Fork River - Flint / Rock						
Lake	74,286	735	50,967	509	23,320	226
Stream	86,367	950	44,017	466	42,350	484
Total:	160,654	1,685	94,984	975	65,670	710
Flathead River						
Lake	157,998	1,550	124,658	1,217	33,340	333
Stream	78,419	853	59,539	653	18,880	200
Total:	236,417	2,403	184,197	1,870	52,220	533

Table 5. Angling Pressure in angler days by Drainage by Lake or Stream for the 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Fort Peck Reservoir						
Lake	114,497	1,193	85,010	920	29,487	273
Stream	19,595	242	14,988	185	4,607	57
Total:	134,092	1,435	99,998	1,105	34,094	330
Gallatin River						
Lake	16,489	182	13,895	153	2,593	29
Stream	153,076	1,610	82,828	895	70,248	715
Total:	169,565	1,792	96,723	1,048	72,841	744
Jefferson River						
Lake	9,207	114	7,933	101	1,273	13
Stream	14,389	170	8,801	106	5,588	64
Total:	23,596	284	16,734	207	6,861	77
Kootenai River						
Lake	66,251	677	50,314	493	15,937	184
Stream	33,143	336	22,995	227	10,148	109
Total:	99,394	1,013	73,309	720	26,085	293
Little Missouri River						
Lake	239	2	239	2		
Stream	58	1	58	1		
Total:	298	3	297	3		
Lower Clark Fork River						
Lake	64,433	652	57,105	577	7,328	75
Stream	41,543	455	30,488	330	11,055	125
Total:	105,975	1,107	87,593	907	18,383	200
Lower Milk River						
Lake	58	1	58	1		
Stream	5,867	61	4,902	55	965	6
Total:	5,925	62	4,960	56	965	6
Lower Missouri River						
Lake	3,261	42	3,118	41	143	1
Stream	5,902	39	5,902	39		
Total:	9,163	81	9,020	80	143	1
Lower Yellowstone River						
Lake	7,586	87	7,263	80	323	7
Stream	40,412	481	36,836	416	3,576	65
Total:	47,997	568	44,099	496	3,899	72

Table 5. Angling Pressure in angler days by Drainage by Lake or Stream for the 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Madison River						
Lake	67,079	702	30,903	311	36,176	391
Stream	207,306	2,201	63,218	639	144,088	1,562
Total:	274,385	2,903	94,121	950	180,264	1,953
Marias River						
Lake	49,572	496	45,845	468	3,727	28
Stream	7,341	88	5,950	70	1,391	18
Total:	56,913	584	51,795	538	5,118	46
Middle Clark Fork River						
Lake	4,945	54	3,837	45	1,108	9
Stream	76,717	827	48,976	519	27,741	308
Total:	81,662	881	52,813	564	28,849	317
Middle Milk River						
Undesig	1,947	21	1,286	14	662	7
Lake	38,165	388	32,386	339	5,779	49
Stream	14,093	158	12,187	140	1,906	18
Total:	54,206	567	45,859	493	8,347	74
Middle Yellowstone River						
Lake	12,900	156	12,833	155	67	1
Stream	38,474	432	36,375	408	2,099	24
Total:	51,374	588	49,208	563	2,166	25
Missouri River - Dearborn						
Lake	3,408	25	3,274	23	134	2
Stream	231,665	2,479	146,585	1,477	85,080	1,002
Total:	235,073	2,504	149,859	1,500	85,214	1,004
Missouri River - Judith						
Lake	16,354	145	13,012	121	3,342	24
Stream	46,866	505	39,383	408	7,484	97
Total:	63,221	650	52,395	529	10,826	121
Missouri River - Poplar						
Lake	877	15	877	15		
Stream	15,822	170	13,116	138	2,707	32
Total:	16,699	185	13,993	153	2,707	32
Musselshell River						
Lake	19,369	211	17,855	194	1,515	17
Stream	7,227	88	6,477	79	751	9
Total:	26,597	299	24,332	273	2,266	26

Table 5. Angling Pressure in angler days by Drainage by Lake or Stream for the 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Powder River						
Lake	1,477	14	1,477	14		
Stream	509	7	509	7		
Total:	1,986	21	1,986	21		
Red Rock River						
Lake	23,867	223	12,936	123	10,931	100
Stream	8,782	105	2,974	34	5,808	71
Total:	32,649	328	15,910	157	16,739	171
Ruby River						
Lake	11,043	96	9,238	81	1,805	15
Stream	15,783	170	6,807	68	8,976	102
Total:	26,826	266	16,045	149	10,781	117
Smith River						
Lake	11,069	97	10,096	87	974	10
Stream	27,608	376	17,793	231	9,815	145
Total:	38,678	473	27,889	318	10,789	155
South Fork Flathead River						
Lake	9,891	117	7,903	95	1,988	22
Stream	11,223	124	6,538	75	4,685	49
Total:	21,114	241	14,441	170	6,673	71
Sun River						
Lake	24,381	237	22,862	222	1,519	15
Stream	18,418	212	15,738	183	2,680	29
Total:	42,799	449	38,600	405	4,199	44
Swan River						
Lake	14,951	160	11,398	122	3,553	38
Stream	7,974	88	5,032	53	2,942	35
Total:	22,925	248	16,430	175	6,495	73
Teton River						
Lake	6,638	68	6,638	68		
Stream	4,116	48	3,267	38	849	10
Total:	10,754	116	9,905	106	849	10
Tongue River						
Lake	25,881	280	16,545	190	9,337	90
Stream	15,298	159	9,748	106	5,549	53
Total:	41,179	439	26,293	296	14,886	143

Table 5. Angling Pressure in angler days by Drainage by Lake or Stream for the 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Upper Clark Fork River						
Lake	3,826	41	2,598	27	1,228	14
Stream	35,433	397	28,770	324	6,664	73
Total:	39,260	438	31,368	351	7,892	87
Upper Milk River						
Lake	24,261	238	22,984	227	1,277	11
Stream	5,446	55	4,972	51	474	4
Total:	29,707	293	27,956	278	1,751	15
Upper Missouri River						
Lake	225,118	2,422	205,538	2,213	19,580	209
Stream	65,737	632	50,923	451	14,814	181
Total:	290,855	3,054	256,461	2,664	34,394	390
Upper Yellowstone River						
Lake	62,936	639	48,870	516	14,067	123
Stream	311,345	3,380	191,143	2,097	120,202	1,283
Total:	374,282	4,019	240,013	2,613	134,269	1,406

3.2 ANGLER PRESSURE ESTIMATES SUMMER (MAY-SEPTEMBER)

The "summer" season for angling in Montana is considered that period of the year from the first of May through the end of September. In 2013, 2,471,841 (70%) days of angling pressure occurred during this period (Table 6). Residents accounted for 1,651,400 angler days (66.8%) and nonresidents made up the remaining 820,441 angler days (33.2%). Estimates for individual waters were sorted alphabetically are presented in Appendix B of this report. Monthly estimates for the top 100 waters (in terms of pressure) are also provided in Appendix D.

The distribution of angler pressure distributed among Fish, Wildlife and Parks regions during summer (Chart 3, Table 6) is heavily skewed toward the western and central portions of the state. Region 3 received the most angling pressure with 610,359 angler days (24.7%), followed closely by Region 4 with 500,169 angler days (20.2%). Regions 2, 1 and 5 were next in order and close to each other, with 411,078 (16.6%), 356,178 (14.4%), and 356,053 (14.4%) angler days respectively. The easternmost regions of 6 and 7 were the lowest in pressure with 164,130 (6.6%) and 66,333 (2.7%) angler days respectively.

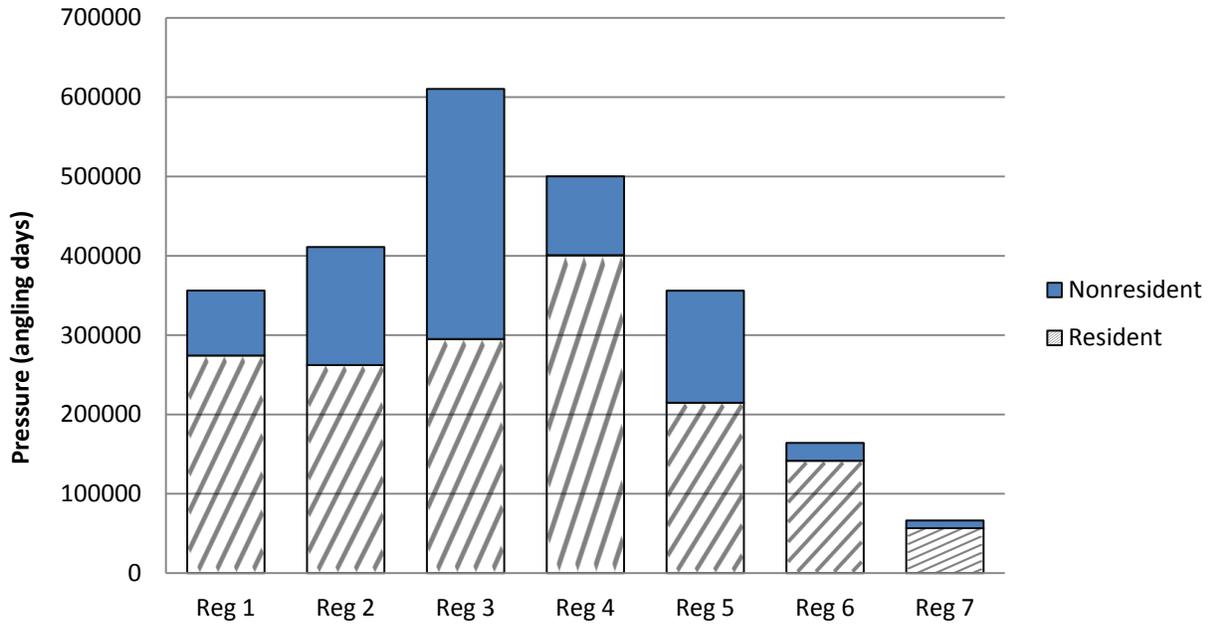
Residents (Chart 3) exerted the majority of angling pressure during the summer season in 2013 in all regions but Region 3. The percent of angling pressure by residents for each region was: Region 1 – 77%, Region 2 – 63.8%, Region 3 – 48.4%, Region 4 – 80.1%, Region 5 – 60.3%, Region 6 – 86.3%, and Region 7 – 85.4%.

Angling on lotic waters (streams/rivers) accounted for 64.7% (1,600,290 angler days) of the statewide pressure during the summer season while lentic waters (lakes/ponds/reservoirs) accounted for 34.5% (854,078 angler days) of the pressure and undesignated waters accounted for less than 0.7% (17,473 angler days) of the pressure (Table 6).

Regions 1 and 6 were the two regions in which lake angling pressure exceeded stream pressure during the summer season (59.4% and 72.0%, respectively, from lakes), although the lake pressure in Region 6 was due primarily to angling on one water (Fort Peck Reservoir) (Table 6, Chart 4). Region 4 was relatively balanced between stream and lake angling (52.6 and 47.1%, respectively). Regions 2, 3, 5 and 7 were dominated by stream anglers, and Region 3 had both the highest number of stream anglers for any region (510,256 angler days) and the highest percentage (83.6%) of anglers that were stream anglers.

Angling pressure during summer was summarized within the 40 major drainages (Figure 1, Table 7). The pressure by drainage ranged from a high of 289,015 angler days for the Upper Yellowstone River drainage to a low of 147 angler days for the Little Missouri River drainage. The drainages with the highest percentage of resident anglers were the Little Missouri, Lower Missouri and Powder River all at 100%, while the Madison had the lowest percentage of resident anglers (33.8%). Fort Peck Reservoir had the highest percentage of lake anglers (86.4%) followed closely by the Marias (83.2%), mainly due to the influence of Tiber Reservoir, while the Lower Milk had the lowest percentage of lake anglers (1.6%).

**Chart 3. Angling Pressure by Region and Residency
Summer Months 2013**



**Chart 4. Angling Pressure by Region and Water Type
Summer Months 2013**

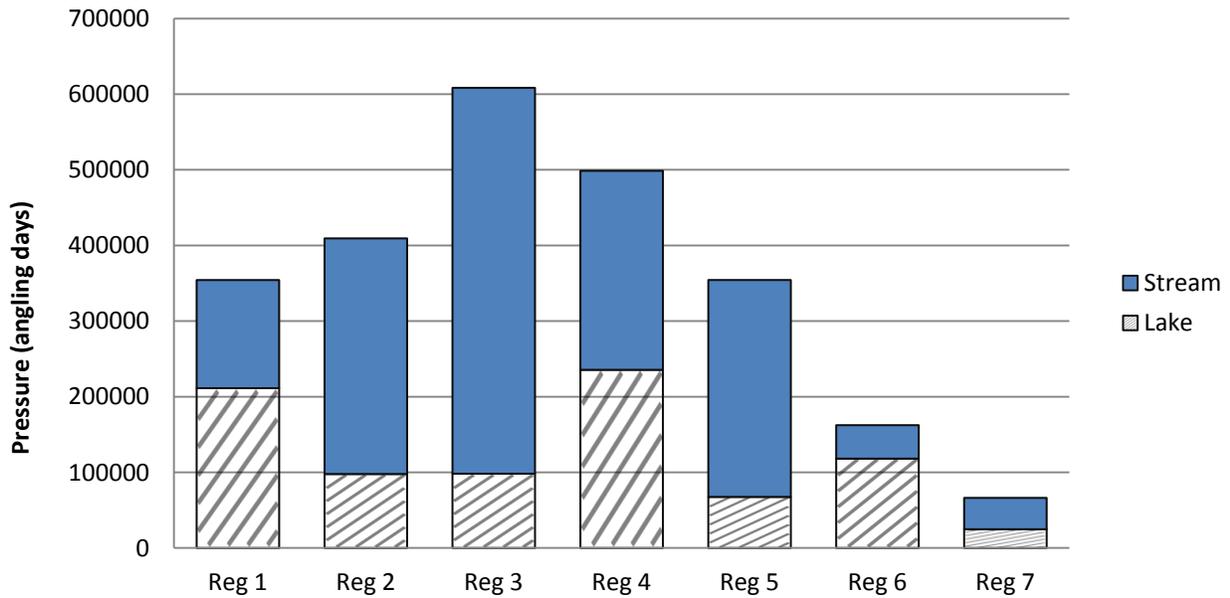


Table 6. Angling Pressure in angler days by Region by Lake or Stream for the summer season of May through September, 2013.

	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Region 1						
Undesig	1,811	22	665	8	1,146	14
Lake	211,396	2,567	170,183	2,057	41,213	510
Stream	142,971	1,658	103,487	1,205	39,484	453
Total:	356,178	4,247	274,335	3,270	81,843	977
Region 2						
Undesig	1,621	27	1,540	26	81	1
Lake	97,920	1,158	75,322	896	22,597	262
Stream	311,537	3,684	185,443	2,223	126,094	1,461
Total:	411,078	4,869	262,305	3,145	148,772	1,724
Region 3						
Undesig	1,800	21	955	12	845	9
Lake	98,303	1,206	65,780	785	32,523	421
Stream	510,256	6,124	228,384	2,782	281,872	3,342
Total:	610,359	7,351	295,119	3,579	315,240	3,772
Region 4						
Undesig	1,405	19	889	12	516	7
Lake	235,684	2,905	222,628	2,729	13,056	176
Stream	263,080	3,393	177,284	2,226	85,796	1,167
Total:	500,169	6,317	400,801	4,967	99,368	1,350
Region 5						
Undesig	1,620	20	1,523	19	97	1
Lake	67,664	818	54,996	669	12,668	149
Stream	286,770	3,633	158,243	1,923	128,526	1,710
Total:	356,053	4,471	214,762	2,611	141,291	1,860
Region 6						
Undesig	1,674	20	1,249	15	425	5
Lake	118,235	1,502	103,031	1,304	15,204	198
Stream	44,220	566	37,354	475	6,866	91
Total:	164,130	2,088	141,634	1,794	22,495	294
Region 7						
Lake	24,876	316	20,727	255	4,149	61
Stream	41,456	562	35,937	462	5,520	100
Total:	66,333	878	56,664	717	9,669	161

Table 6. Angling Pressure in angler days by Region by Lake or Stream for the summer season of May through September, 2013 (continued).

Statewide Summer Pressure

	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Undesig	17,473	218	12,601	160	4,872	58
Lake	854,078	10,472	712,668	8,695	141,410	1,777
Stream	1,600,290	19,620	926,131	11,296	674,159	8,324
Statewide Total	2,471,841	30,310	1,651,400	20,151	820,441	10,159

Table 7. Angling Pressure in angler days by Drainage by Lake or Stream for the Summer season (May - September) 2013 angling year.

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Beaverhead River						
Lake	816	10	689	8	127	2
Stream	37,129	457	13,533	163	23,596	294
Total:	37,945	467	14,222	171	23,723	296
Belt Creek						
Stream	10,664	124	8,127	96	2,538	28
Total:	10,664	124	8,127	96	2,538	28
Big Hole River						
Undesig	194	2	194	2		
Lake	4,525	50	2,909	32	1,615	18
Stream	78,520	976	42,624	545	35,896	431
Total:	83,239	1,028	45,727	579	37,511	449
Bighorn River						
Lake	13,149	159	7,262	88	5,886	71
Stream	115,176	1,609	26,965	351	88,211	1,258
Total:	128,324	1,768	34,227	439	94,097	1,329
Bitterroot River						
Lake	7,036	86	4,979	63	2,056	23
Stream	87,749	1,038	46,455	564	41,294	474
Total:	94,785	1,124	51,434	627	43,350	497
Blackfoot River						
Lake	32,344	399	28,737	350	3,606	49
Stream	72,824	839	48,129	558	24,695	281
Total:	105,168	1,238	76,866	908	28,301	330
Boulder River						
Lake	858	10	858	10		
Stream	7,769	91	6,735	79	1,034	12
Total:	8,627	101	7,593	89	1,034	12
Clark Fork River - Flint / Rock						
Lake	50,898	586	35,455	413	15,443	173
Stream	63,815	772	30,137	377	33,678	395
Total:	114,714	1,358	65,592	790	49,121	568
Flathead River						
Lake	95,802	1,188	77,331	953	18,470	235
Stream	64,901	750	49,509	577	15,393	173
Total:	160,703	1,938	126,840	1,530	33,863	408
Fort Peck Reservoir						
Lake	79,683	993	66,522	823	13,161	170
Stream	12,572	185	9,782	141	2,790	44
Total:	92,255	1,178	76,304	964	15,951	214

Table 7. Angling Pressure in angler days by Drainage by Lake or Stream for the Summer season (May - September) 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Gallatin River						
Lake	12,476	154	10,915	132	1,561	22
Stream	106,468	1,242	59,532	717	46,936	525
Total:	118,944	1,396	70,447	849	48,497	547
Jefferson River						
Lake	7,904	106	7,411	98	493	8
Stream	10,683	139	7,349	94	3,334	45
Total:	18,587	245	14,760	192	3,827	53
Kootenai River						
Lake	44,345	541	32,008	386	12,338	155
Stream	25,612	291	17,277	196	8,335	95
Total:	69,957	832	49,285	582	20,673	250
Little Missouri River						
Lake	89	1	89	1		
Stream	58	1	58	1		
Total:	147	2	147	2		
Lower Clark Fork River						
Lake	46,520	547	41,589	487	4,931	60
Stream	34,639	410	25,717	302	8,922	108
Total:	81,159	957	67,306	789	13,853	168
Lower Milk River						
Lake	58	1	58	1		
Stream	3,565	46	3,468	45	97	1
Total:	3,624	47	3,526	46	97	1
Lower Missouri River						
Lake	3,118	41	3,118	41		
Stream	177	2	177	2		
Total:	3,296	43	3,295	43		
Lower Yellowstone River						
Lake	5,817	75	5,494	68	323	7
Stream	29,589	408	26,307	346	3,282	62
Total:	35,406	483	31,801	414	3,605	69
Madison River						
Lake	47,747	587	23,410	275	24,337	312
Stream	142,451	1,736	40,822	506	101,628	1,230
Total:	190,198	2,323	64,232	781	125,965	1,542
Marias River						
Lake	33,280	401	32,429	392	850	9
Stream	6,689	84	5,298	66	1,391	18
Total:	39,969	485	37,727	458	2,241	27

Table 7. Angling Pressure in angler days by Drainage by Lake or Stream for the Summer season (May - September) 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Middle Clark Fork River						
Lake	4,155	48	3,760	44	395	4
Stream	57,800	686	36,216	431	21,584	255
Total:	61,955	734	39,976	475	21,979	259
Middle Milk River						
Undesig	1,312	16	984	12	328	4
Lake	21,143	276	19,745	255	1,399	21
Stream	12,372	145	11,056	131	1,316	14
Total:	34,827	437	31,785	398	3,043	39
Middle Yellowstone River						
Lake	10,728	143	10,661	142	67	1
Stream	27,716	345	26,416	329	1,301	16
Total:	38,444	488	37,077	471	1,368	17
Missouri River - Dearborn						
Lake	1,363	16	1,229	14	134	2
Stream	142,823	1,852	87,727	1,103	55,095	749
Total:	144,186	1,868	88,956	1,117	55,229	751
Missouri River - Judith						
Lake	6,635	83	6,140	78	495	5
Stream	31,208	396	24,857	310	6,351	86
Total:	37,843	479	30,997	388	6,846	91
Missouri River - Poplar						
Lake	877	15	877	15		
Stream	11,520	144	9,876	120	1,644	24
Total:	12,397	159	10,753	135	1,644	24
Musselshell River						
Lake	12,921	168	12,061	156	860	12
Stream	5,921	74	5,170	65	751	9
Total:	18,842	242	17,231	221	1,611	21
Powder River						
Lake	874	10	874	10		
Stream	509	7	509	7		
Total:	1,383	17	1,383	17		
Red Rock River						
Lake	10,658	134	7,196	86	3,462	48
Stream	7,874	98	2,705	32	5,170	66
Total:	18,532	232	9,901	118	8,632	114
Ruby River						
Lake	4,669	57	4,105	50	564	7
Stream	10,182	125	4,017	49	6,165	76
Total:	14,851	182	8,122	99	6,729	83

Table 7. Angling Pressure in angler days by Drainage by Lake or Stream for the Summer season (May - September) 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Smith River						
Lake	6,587	76	5,880	68	707	8
Stream	24,374	340	15,030	202	9,343	138
Total:	30,961	416	20,910	270	10,050	146
South Fork Flathead River						
Lake	9,814	116	7,826	94	1,988	22
Stream	9,931	116	5,771	71	4,161	45
Total:	19,745	232	13,597	165	6,149	67
Sun River						
Lake	12,624	162	12,090	155	535	7
Stream	16,428	189	13,748	160	2,680	29
Total:	29,052	351	25,838	315	3,215	36
Swan River						
Lake	12,353	140	8,933	103	3,420	37
Stream	6,985	80	4,311	48	2,674	32
Total:	19,338	220	13,244	151	6,094	69
Teton River						
Lake	4,750	58	4,750	58		
Stream	3,815	46	2,965	36	849	10
Total:	8,565	104	7,715	94	849	10
Tongue River						
Lake	17,726	226	13,899	172	3,826	54
Stream	9,833	125	8,093	96	1,740	29
Total:	27,559	351	21,992	268	5,566	83
Upper Clark Fork River						
Lake	3,487	39	2,390	26	1,097	13
Stream	29,348	349	24,505	293	4,842	56
Total:	32,835	388	26,895	319	5,939	69
Upper Milk River						
Lake	13,245	173	12,701	167	545	6
Stream	3,423	41	3,377	40	46	1
Total:	16,668	214	16,078	207	591	7
Upper Missouri River						
Lake	162,399	2,001	152,636	1,865	9,763	136
Stream	33,546	440	23,834	306	9,712	134
Total:	195,945	2,441	176,470	2,171	19,475	270
Upper Yellowstone River						
Lake	46,472	539	39,629	461	6,844	78
Stream	242,542	2,809	146,956	1,729	95,587	1,080
Total:	289,015	3,348	186,585	2,190	102,431	1,158

Table 7. Angling Pressure in angler days by Drainage by Lake or Stream for the Summer season (May - September) 2013 angling year (continued).

Statewide

	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Undesig	17,473	218	12,601	160	4,872	58
Lake	854,078	10,472	712,668	8,695	141,410	1,777
Stream	1,600,290	19,620	926,131	11,296	674,159	8,324
Statewide Total	2,471,841	30,310	1,651,400	20,151	820,441	10,159

3.3 ANGLER PRESSURE ESTIMATES **WINTER (OCTOBER-APRIL)**

The "winter" season for angling is from March through April and October through February of the following year. In 2013-2014, 1,057,326 angler days (30%) of the annual fishing pressure occurred during this period (Table 8). Residents accounted for 663,897 angler days (62.8%) and nonresidents made up the remaining 393,337 angler days (37.2%). Estimates for individual waters were for the winter season were sorted alphabetically are presented in Appendix C of this report. Monthly estimates for the top 100 waters (in terms of pressure) are also provided in Appendix E

The distribution of angler pressure distributed among Fish, Wildlife and Parks regions during winter (Chart 5, Table 8) is heavily skewed toward the western and central portions of the state. Region 4 received the most angling pressure with 262,731 angler days (24.8%), followed closely by Region 3 with 243,397 angler days (23.0%). Regions 5, 2 and 1 were next in order and close to each other, with 151,770 (14.4%), 145,891 (13.8%), and 136,370 (12.9%) angler days respectively. The easternmost regions of 6 and 7 were the lowest in pressure with 86,077 (8.1%) and 27,486 (2.6%) angler days respectively.

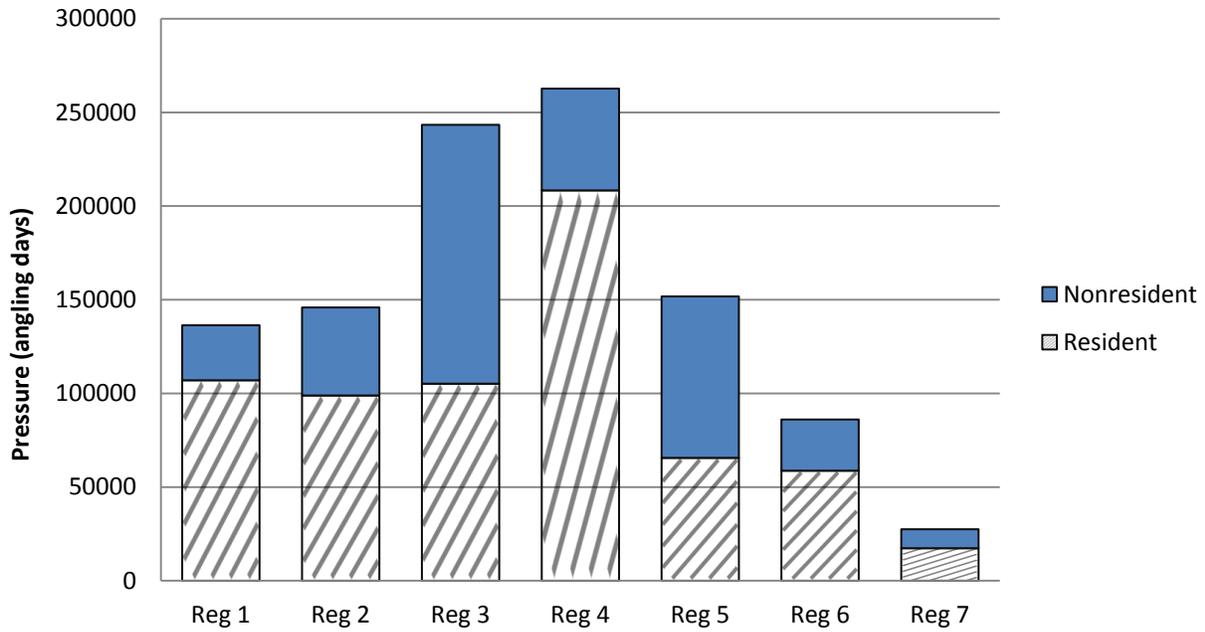
Residents (Chart 5) exerted the majority of angling pressure during the winter season in 2013 in all regions but Regions 3 and 5. The percent of angling pressure by residents for each region was: Region 1 – 78.4%, Region 2 – 67.8%, Region 3 – 43.2%, Region 4 – 79.3%, Region 5 – 43.2%, Region 6 – 70.8%, and Region 7 – 63.1%.

Angling on lotic waters (streams/rivers) accounted for 60.8% (642,874 angler days) of the statewide pressure during the winter season while lentic waters (lakes/ponds/reservoirs) accounted for 38.5% (407,327 angler days) of the pressure and undesignated waters accounted for less than 0.7% (7,035 angler days) of the pressure (Table 8).

Regions 1 and 6 were the two regions in which lake angling pressure exceeded stream pressure during the winter season (77.3% and 72.3%, respectively, from lakes), although Region 4 had the highest number of lake anglers (116,521) (Table 8, Chart 6). Region 4 was relatively balanced between stream and lake angling (44.3% and 54.9%, respectively). Regions 2, 3, 5 and 7 were dominated by stream anglers, and Region 3 had the highest number of stream anglers for any region (190,655 angler days) while Region 5 had the highest percentage (90.1%) of anglers that were stream anglers.

Angling pressure during winter was summarized within the 40 major drainages (Figure 1, Table 9). The pressure by drainage ranged from a high of 94,910 angler days for the Upper Missouri River drainage to a low of 151 angler days for the Little Missouri River drainage. The drainages with the highest percentage of resident anglers were the Belt Creek, Lower Missouri, Powder River and Teton River all at 100%, while the Bighorn had the lowest percentage of resident anglers (17.6%). The Marias River drainage had the highest percentage of lake anglers (96.1%), mainly due to the influence of Tiber Reservoir, while the Big Hole and Beaverhead drainages had the lowest percentage of lake anglers (1.1 and 1.2%, respectively).

**Chart 5. Angling Pressure by Region and Residency
Winter Months 2013-14**



**Chart 6. Angling Pressure by Region and Water Type
Winter Months 2013-14**

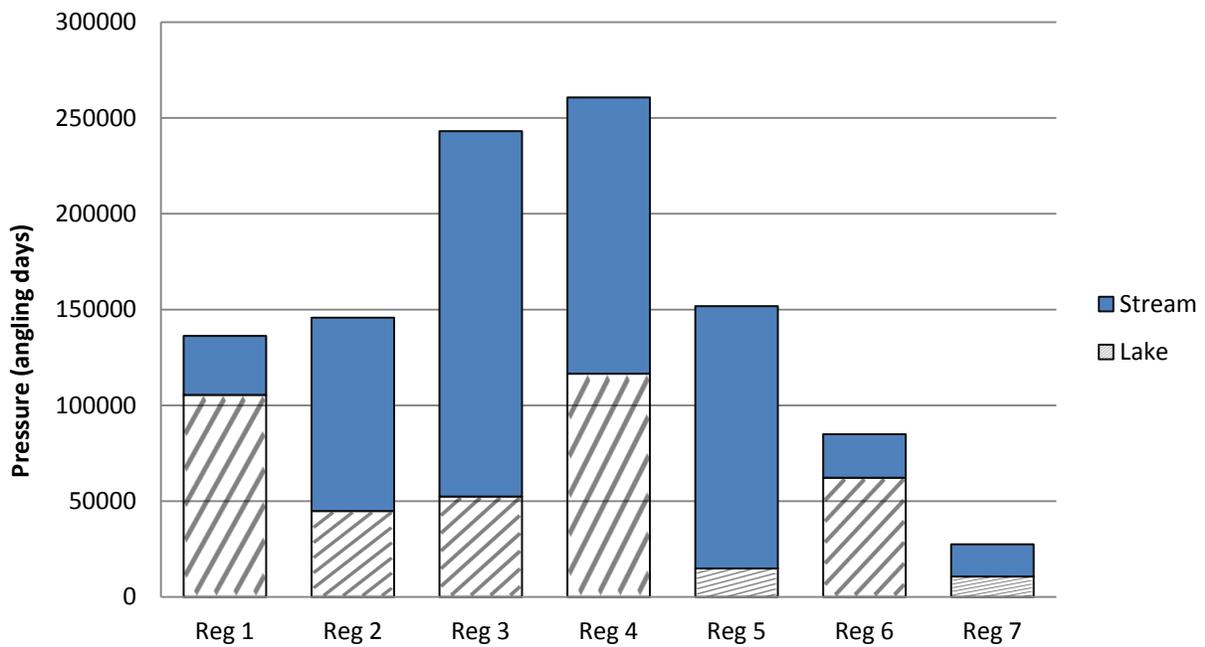


Table 8. Angling Pressure in angler days by Region by Lake or Stream for the winter season of October 2013 through February 2014.

	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Region 1						
Undesig	135	2			135	2
Lake	105,464	628	84,465	485	20,999	143
Stream	30,772	216	22,547	151	8,225	65
Total:	136,370	846	107,012	636	29,359	210
Region 2						
Undesig	143	1			143	1
Lake	44,855	295	31,393	203	13,461	92
Stream	100,893	788	67,511	458	33,382	330
Total:	145,891	1,084	98,904	661	46,986	423
Region 3						
Undesig	313	3	154	2	159	1
Lake	52,428	328	23,822	139	28,607	189
Stream	190,655	1,450	81,214	550	109,441	900
Total:	243,397	1,781	105,190	691	138,207	1,090
Region 4						
Undesig	2,064	12	1,574	9	490	3
Lake	116,521	740	99,124	615	17,397	125
Stream	144,147	1,002	107,683	686	36,464	316
Total:	262,731	1,754	208,381	1,310	54,351	444
Region 5						
Lake	14,904	96	11,853	73	3,051	23
Stream	136,865	1,191	53,736	458	83,130	733
Total:	151,770	1,287	65,589	531	86,181	756
Region 6						
Undesig	1,128	8	302	2	826	6
Lake	62,215	374	40,113	234	22,103	140
Stream	22,734	160	18,331	129	4,403	31
Total:	86,077	542	58,746	365	27,332	177
Region 7						
Lake	10,678	71	5,168	35	5,510	36
Stream	16,808	110	12,184	80	4,624	30
Total:	27,486	181	17,352	115	10,134	66
Statewide						
Undesig	7,035	47	4,755	30	2,279	17
Lake	407,327	2,534	295,937	1,784	111,390	750
Stream	642,874	4,917	363,205	2,512	279,668	2,405
Statewide Total	1,057,236	7,498	663,897	4,326	393,337	3,172

Table 9. Angling Pressure in angler days by Drainage by Lake or Stream for the Winter season (March - April and October - February, 2014) of the 2013 angling year.

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Beaverhead River						
Lake	188	1	188	1		
Stream	15,603	103	6,772	28	8,831	75
Total:	15,791	104	6,960	29	8,831	75
Belt Creek						
Stream	2,335	16	2,335	16		
Total:	2,335	16	2,335	16		
Big Hole River						
Lake	188	1	188	1		
Stream	17,589	154	6,053	47	11,536	107
Total:	17,777	155	6,241	48	11,536	107
Bighorn River						
Lake	3,465	24	1,602	10	1,863	14
Stream	89,660	782	14,811	118	74,849	664
Total:	93,125	806	16,413	128	76,712	678
Bitterroot River						
Lake	1,073	9	529	4	544	5
Stream	41,686	324	28,210	183	13,475	141
Total:	42,759	333	28,739	187	14,019	146
Blackfoot River						
Lake	19,264	129	15,068	101	4,196	28
Stream	11,654	97	8,397	67	3,258	30
Total:	30,918	226	23,465	168	7,454	58
Boulder River						
Stream	1,148	7	751	4	398	3
Total:	1,148	7	751	4	398	3
Clark Fork River - Flint / Rock						
Lake	23,388	149	15,512	96	7,877	53
Stream	22,552	178	13,880	89	8,672	89
Total:	45,940	327	29,392	185	16,549	142
Flathead River						
Lake	62,196	362	47,327	264	14,869	98
Stream	13,518	103	10,030	76	3,488	27
Total:	75,714	465	57,357	340	18,357	125
Fort Peck Reservoir						
Lake	34,814	200	18,488	97	16,326	103
Stream	7,023	57	5,206	44	1,816	13
Total:	41,837	257	23,694	141	18,142	116

Table 9. Angling Pressure in angler days by Drainage by Lake or Stream for the Winter season (March - April and October - February, 2014) of the 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Gallatin River						
Lake	4,013	28	2,980	21	1,033	7
Stream	46,608	368	23,296	178	23,312	190
Total:	50,621	396	26,276	199	24,345	197
Jefferson River						
Lake	1,302	8	522	3	780	5
Stream	3,706	31	1,452	12	2,254	19
Total:	5,008	39	1,974	15	3,034	24
Kootenai River						
Lake	21,906	136	18,306	107	3,599	29
Stream	7,531	45	5,718	31	1,813	14
Total:	29,437	181	24,024	138	5,412	43
Little Missouri River						
Lake	151	1	151	1		
Total:	151	1	151	1		
Lower Clark Fork River						
Lake	17,913	105	15,516	90	2,397	15
Stream	6,904	45	4,771	28	2,133	17
Total:	24,816	150	20,287	118	4,530	32
Lower Milk River						
Stream	2,301	15	1,433	10	868	5
Total:	2,301	15	1,433	10	868	5
Lower Missouri River						
Lake	143	1			143	1
Stream	5,725	37	5,725	37		
Total:	5,867	38	5,725	37	143	1
Lower Yellowstone River						
Lake	1,769	12	1,769	12		
Stream	10,823	73	10,529	70	294	3
Total:	12,592	85	12,298	82	294	3
Madison River						
Lake	19,332	115	7,493	36	11,839	79
Stream	64,855	465	22,395	133	42,460	332
Total:	84,187	580	29,888	169	54,299	411
Marias River						
Lake	16,292	95	13,415	76	2,877	19
Stream	653	4	653	4		
Total:	16,945	99	14,068	80	2,877	19

Table 9. Angling Pressure in angler days by Drainage by Lake or Stream for the Winter season (March - April and October - February, 2014) of the 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Middle Clark Fork River						
Lake	791	6	77	1	714	5
Stream	18,916	141	12,760	88	6,156	53
Total:	19,707	147	12,837	89	6,870	58
Middle Milk River						
Undesig	636	5	302	2	334	3
Lake	17,022	112	12,642	84	4,380	28
Stream	1,721	13	1,131	9	590	4
Total:	19,379	130	14,075	95	5,304	35
Middle Yellowstone River						
Lake	2,172	13	2,172	13		
Stream	10,758	87	9,959	79	798	8
Total:	12,929	100	12,131	92	798	8
Missouri River - Dearborn						
Lake	2,045	9	2,045	9		
Stream	88,843	627	58,858	374	29,985	253
Total:	90,888	636	60,903	383	29,985	253
Missouri River - Judith						
Lake	9,719	62	6,872	43	2,847	19
Stream	15,658	109	14,526	98	1,132	11
Total:	25,377	171	21,398	141	3,979	30
Missouri River - Poplar						
Stream	4,302	26	3,240	18	1,062	8
Total:	4,302	26	3,240	18	1,062	8
Musselshell River						
Lake	6,448	43	5,794	38	655	5
Stream	1,306	14	1,306	14		
Total:	7,755	57	7,100	52	655	5
Powder River						
Lake	603	4	603	4		
Total:	603	4	603	4		
Red Rock River						
Lake	13,209	89	5,740	37	7,469	52
Stream	907	7	269	2	639	5
Total:	14,117	96	6,009	39	8,108	57
Ruby River						
Lake	6,374	39	5,132	31	1,241	8
Stream	5,601	45	2,789	19	2,811	26
Total:	11,974	84	7,921	50	4,052	34

Table 9. Angling Pressure in angler days by Drainage by Lake or Stream for the Winter season (March - April and October - February, 2014) of the 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Smith River						
Lake	4,482	21	4,215	19	267	2
Stream	3,235	36	2,763	29	472	7
Total:	7,717	57	6,978	48	739	9
South Fork Flathead River						
Lake	77	1	77	1		
Stream	1,292	8	768	4	524	4
Total:	1,369	9	845	5	524	4
Sun River						
Lake	11,757	75	10,772	67	984	8
Stream	1,990	23	1,990	23		
Total:	13,746	98	12,762	90	984	8
Swan River						
Lake	2,598	20	2,465	19	133	1
Stream	989	8	721	5	268	3
Total:	3,587	28	3,186	24	401	4
Teton River						
Lake	1,888	10	1,888	10		
Stream	302	2	302	2		
Total:	2,190	12	2,190	12		
Tongue River						
Lake	8,155	54	2,645	18	5,510	36
Stream	5,464	34	1,655	10	3,809	24
Total:	13,620	88	4,300	28	9,319	60
Upper Clark Fork River						
Lake	339	2	208	1	131	1
Stream	6,086	48	4,264	31	1,821	17
Total:	6,424	50	4,472	32	1,952	18
Upper Milk River						
Lake	11,016	65	10,283	60	733	5
Stream	2,023	14	1,595	11	428	3
Total:	13,039	79	11,878	71	1,161	8
Upper Missouri River						
Lake	62,719	421	52,902	348	9,817	73
Stream	32,191	192	27,089	145	5,102	47
Total:	94,910	613	79,991	493	14,919	120

Table 9. Angling Pressure in angler days by Drainage by Lake or Stream for the Winter season (March - April and October - February, 2014) of the 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Upper Yellowstone River						
Lake	16,464	100	9,241	55	7,223	45
Stream	68,803	571	44,187	368	24,616	203
Total:	85,267	671	53,428	423	31,839	248
Statewide Pressure Estimates for Winter months 2013						
	----- Totals -----		----- Resident -----		----- Non-Resident -----	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Undesig	7,035	47	4,755	30	2,279	17
Lake	407,327	2,534	295,937	1,784	111,390	750
Stream	642,874	4,917	363,205	2,512	279,668	2,405
Statewide Total	1,057,236	7,498	663,897	4,326	393,337	3,172

3.4 PRIMARY SPECIES FISHED FOR

The mail questionnaire asked anglers to indicate the primary species they were fishing for. The answers to this question provide a good generalization regarding angler preferences and intentions, but are probably inaccurate on some waters because anglers often will intentionally fish for more than one species but can only indicate one on the questionnaire. Another inaccuracy occurs in situations where anglers are fishing for one of many species of co-existing trout in a lake or stream. The angler may typically expect to catch a rainbow, cutthroat, brown, or brook trout depending on the situation. It is most likely for this reason that a common response to the survey, particularly in the trout-dominant rivers of southwestern Montana, was “trout.”

On a statewide basis, the most common response was “trout” (40.69%), followed by rainbow trout (15.28%), brown trout (9.51%), walleye (9.15%), cutthroat trout (4.74%), and northern pike (3.56%) (Table 10). Salmonids (trout, salmon, char, whitefish and grayling) collectively are indicated as the primary species by 76.15% of anglers.

Although salmonid fishing dominates on a statewide basis in terms of angler days, there are notable geographic differences (Table 11). Salmonid fishing comprises the majority of angling pressure in every drainage west of the Continental Divide except for the lower Clark Fork, which is heavily influenced by fishing on Noxon Rapids Reservoir for pike, walleye, bass and yellow perch (Figures 2-11). The salmonid-dominant drainages west of the divide have some notable differences. Lake trout are the most sought-after species in the Flathead River drainage (17.52%), primarily due to Flathead Lake. Cutthroat trout constitute the majority of angling interest in the South Fork Flathead drainage (57.68%), where FWP is actively working to eliminate the presence of any rainbow trout. Kokanee salmon are the dominant species of interest in the Kootenai River drainage, primarily due to fishing on Lake Koocanusa.

The Missouri headwater drainages in southwest Montana are dominated by trout fishing, primarily for rainbow and brown trout in the valley-bottom rivers. For these two species plus “trout”, the percentage ranges from 75.47% in the Boulder River drainage to 94.57% in the Beaverhead River drainage. Cutthroat and brook trout, where indicated as the primary species, are numerically low (typically below 10%), but are often the only game species in the mountain lakes and streams in these drainages.

The upper and middle Missouri River and its drainages in Region 4 represent a transition from salmonids to cool-water species. The Upper Missouri River drainage, which contains Canyon Ferry, Hauser and Holter reservoirs is dominated by “trout” and rainbow trout as a primary species (54.72%), although walleye represent a significant component (33.67%). Downstream in the Upper Missouri-Dearborn drainage, “trout,” rainbow trout and brown trout are the overwhelming favorite species and make up more than 90% of the effort. Further downstream in the Missouri River-Judith drainage, “trout”/rainbow trout still comprise the majority of species being fished for, but cool-water species such as walleye (9.77%), channel catfish (7.49%), and northern pike (4.23%) are important to anglers. The Marias River drainage is the most notable tributary to the Missouri in Region 4, due to its high emphasis on walleye (62.33%) and northern pike (11.30%).

The lower Missouri River mainstem drainages within Region 6 are dominated by walleye and northern pike fishing. Combined, these two species comprise 83.44% of angler preference in Fort Peck Reservoir,

54.06% in the Missouri River-Poplar, and 77.98% in the Lower Missouri drainage. Channel catfish are sought in all of the drainages within Region 6, but rise to their highest level in the Lower Milk River drainage (35.48%).

Species preferences within the Yellowstone River drainage show a longitudinal shift from salmonid fishing in the headwaters to cool-water species in eastern Montana. In the Upper Yellowstone drainage within Region 3, the combination of “trout,” rainbow trout, brown trout and cutthroat trout comprise 92.63% of angler preferences. Further downstream in Region 5, but still within the Upper Yellowstone drainage, these same species make up over 87% of preferences. The Middle Yellowstone River drainage still has a substantial component of anglers seeking trout (roughly 31% for “trout,” rainbow trout and brown trout), but cool-water species dominate, led by channel catfish (27.38%). The Lower Yellowstone River drainage is dominated by fishing for coolwater species, starting with channel catfish (40.49%) followed by paddlefish (12.85%), walleye (12.15%), northern pike (8.27%) and sauger (5.28%). Notable tributary drainages to the Yellowstone include the Bighorn River drainage (93.82% for “trout,” rainbow trout and brown trout), and the Tongue River drainage which has high levels for walleye (35.31%) and crappie (20.96%) based primarily on fishing in Tongue River reservoir.

Table 10. Percent of Trips for each Primary Species Fished for - Statewide for License Year 2013.

Primary Species Fished for	Percent of days for species	Primary Species Fished for	Percent of days for species
Trout	40.69%	Northern Pike X Muskie	0.07%
Rainbow Trout	15.28%	Rainbow Trout X Cutthroat	0.06%
Brown Trout	9.51%	Bull Trout	0.05%
Walleye	9.15%	Sunfish	0.04%
Cutthroat Trout	4.74%	Whitefish	0.03%
Nothern Pike	3.56%	Goldeye	0.02%
Kokanee salmon	2.07%	Northern Pike Minnow	0.02%
Brook Trout	1.90%	Golden Trout	0.02%
Yellow Perch	1.82%	Sucker	0.02%
Channel Catfish	1.75%	Black Crappie	0.01%
Bass	1.67%	Chinook Salmon	0.01%
Lake Trout	1.38%	Lake Whitefish	0.01%
Paddlefish	0.45%	Freshwater Drum	0.01%
Smallmouth Bass	0.38%	Longnose Sucker	0.01%
Crappie	0.32%	Brook Trout X Brown Trout	0.01%
Largemouth Bass	0.29%	Sauger X Walleye Hybrid	0.01%
Mountain Whitefish	0.25%	Smallmouth Buffalo	0.01%
Sauger	0.15%		
Common Carp	0.15%		
Arctic Grayling	0.14%		
Sturgeon	0.13%		
Burbot	0.10%		
Bluegill	0.10%		

Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for License Year 2013.

Drainage	Primary Species Fished for	Percent of days for species
Region: 1		
Flathead River (47.18% of days fished in this Region.)		
	Lake Trout	17.52%
	Cutthroat Trout	15.27%
	Trout	12.90%
	Rainbow Trout	10.69%
	Kokanee salmon	10.69%
	Nothern Pike	8.45%
	Yellow Perch	6.66%
	Bass	3.87%
	Brook Trout	1.29%
	Smallmouth Bass	1.17%
	Largemouth Bass	1.12%
	Mountain Whitefish	1.04%
	Arctic Grayling	0.67%
	Crappie	0.58%
	Sturgeon	0.42%
	Whitefish	0.42%
	Lake Whitefish	0.17%
	Bluegill	0.12%
	Bull Trout	0.08%
	Brown Trout	0.08%
	Northern Pike Minnow	0.04%
Kootenai River (19.89% of days fished in this Region.)		
	Kokanee salmon	27.44%
	Trout	23.89%
	Rainbow Trout	17.97%
	Bass	5.53%
	Nothern Pike	4.54%
	Cutthroat Trout	3.75%
	Yellow Perch	3.46%
	Brook Trout	3.26%
	Largemouth Bass	1.78%
	Brown Trout	1.18%
	Smallmouth Bass	0.79%
	Lake Trout	0.49%
	Northern Pike X Muskie Hybrid	0.49%
	Bull Trout	0.39%
	Bluegill	0.30%
	Walleye	0.20%
	Channel Catfish	0.20%
	Mountain Whitefish	0.20%
	Northern Pike Minnow	0.20%
	Burbot	0.10%

Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for License Year 2013 (continued).

Drainage	Primary Species Fished for	Percent of days for species
Lower Clark Fork River (21.74% of days fished in this Region.)		
	Nothern Pike	20.14%
	Bass	15.36%
	Trout	11.92%
	Walleye	10.57%
	Yellow Perch	9.49%
	Rainbow Trout	5.33%
	Kokanee salmon	5.33%
	Lake Trout	3.79%
	Brown Trout	3.43%
	Largemouth Bass	3.07%
	Smallmouth Bass	2.98%
	Cutthroat Trout	1.36%
	Brook Trout	1.08%
	Mountain Whitefish	0.18%
South Fork Flathead River (4.73% of days fished in this Region.)		
	Cutthroat Trout	57.68%
	Trout	34.02%
	Bull Trout	2.07%
	Mountain Whitefish	2.07%
	Lake Trout	1.66%
	Arctic Grayling	0.83%
	Rainbow Trout	0.83%
Swan River (4.87% of days fished in this Region.)		
	Trout	36.29%
	Rainbow Trout	22.58%
	Cutthroat Trout	10.48%
	Nothern Pike	10.08%
	Lake Trout	4.44%
	Brook Trout	4.03%
	Smallmouth Bass	2.82%
	Kokanee salmon	2.42%
	Yellow Perch	2.42%
	Bull Trout	0.81%
	Bass	0.40%
	Bluegill	0.40%
Region:	2	
Bitterroot River (24.48% of days fished in this Region.)		
	Trout	54.77%
	Cutthroat Trout	17.50%
	Rainbow Trout	10.50%
	Brown Trout	8.79%
	Brook Trout	1.85%
	Nothern Pike	1.03%
	Rainbow Trout X Cutthroat Trout Hybrid	0.69%
	Mountain Whitefish	0.69%
	Northern Pike Minnow	0.21%
	Brook Trout X Brown Trout Hybrid	0.14%

Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for License Year 2013 (continued).

Drainage	Primary Species Fished for	Percent of days for species
Blackfoot River (24.59% of days fished in this Region.)		
	Trout	38.87%
	Rainbow Trout	16.33%
	Cutthroat Trout	12.70%
	Brown Trout	9.97%
	Nothern Pike	9.22%
	Yellow Perch	3.28%
	Kokanee salmon	1.91%
	Brook Trout	1.37%
	Bass	0.68%
	Mountain Whitefish	0.27%
	Sunfish	0.20%
	Bull Trout	0.14%
	Northern Pike Minnow	0.07%
Clark Fork River - Flint / Rock (28.31% of days fished in this Region.)		
	Trout	44.09%
	Rainbow Trout	27.12%
	Brown Trout	10.86%
	Cutthroat Trout	7.77%
	Brook Trout	3.86%
	Kokanee salmon	3.62%
	Mountain Whitefish	0.30%
	Lake Trout	0.30%
	Bull Trout	0.12%
	Arctic Grayling	0.06%
	Bass	0.06%
Middle Clark Fork River (14.80% of days fished in this Region.)		
	Trout	50.62%
	Rainbow Trout	15.55%
	Cutthroat Trout	9.08%
	Nothern Pike	8.17%
	Brown Trout	4.65%
	Bass	2.72%
	Yellow Perch	1.14%
	Brook Trout	0.57%
	Smallmouth Bass	0.34%
	Walleye	0.23%
	Largemouth Bass	0.23%
	Mountain Whitefish	0.23%
Upper Clark Fork River (7.36% of days fished in this Region.)		
	Trout	55.02%
	Brown Trout	18.26%
	Rainbow Trout	9.82%
	Cutthroat Trout	7.08%
	Brook Trout	5.02%
	Yellow Perch	1.83%
	Nothern Pike	0.46%
	Bass	0.23%

Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for License Year 2013 (continued).

Drainage	Primary Species Fished for	Percent of days for species
Region: 3		
Beaverhead River (6.25% of days fished in this Region.)		
	Trout	42.38%
	Brown Trout	40.63%
	Rainbow Trout	11.56%
	Brook Trout	1.58%
	Cutthroat Trout	0.88%
	Golden Trout	0.53%
	Burbot	0.35%
Big Hole River (12.95% of days fished in this Region.)		
	Trout	40.66%
	Brown Trout	31.87%
	Brook Trout	12.26%
	Rainbow Trout	9.89%
	Cutthroat Trout	2.20%
	Arctic Grayling	0.59%
	Mountain Whitefish	0.17%
	Golden Trout	0.08%
Boulder River (1.18% of days fished in this Region.)		
	Rainbow Trout	35.19%
	Trout	30.56%
	Brook Trout	14.81%
	Brown Trout	9.26%
	Cutthroat Trout	7.41%
	Arctic Grayling	0.93%
Gallatin River (19.62% of days fished in this Region.)		
	Trout	52.73%
	Rainbow Trout	23.38%
	Brown Trout	11.83%
	Cutthroat Trout	3.79%
	Brook Trout	1.23%
	Bluegill	0.28%
	Channel Catfish	0.22%
	Yellow Perch	0.17%
	Sunfish	0.17%
	Walleye	0.11%
	Bass	0.11%
	Arctic Grayling	0.06%
Jefferson River (3.11% of days fished in this Region.)		
	Trout	41.55%
	Brown Trout	25.70%
	Rainbow Trout	15.14%
	Cutthroat Trout	8.80%
	Brook Trout	4.23%

Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for License Year 2013 (continued).

Drainage	Primary Species Fished for	Percent of days for species
Madison River (31.79% of days fished in this Region.)		
	Trout	55.43%
	Rainbow Trout	23.01%
	Brown Trout	16.71%
	Cutthroat Trout	1.00%
	Brook Trout	0.38%
	Lake Trout	0.24%
	Arctic Grayling	0.17%
	Mountain Whitefish	0.14%
	Bluegill	0.07%
	Burbot	0.03%
	Golden Trout	0.03%
Red Rock River (3.59% of days fished in this Region.)		
	Trout	38.72%
	Rainbow Trout	23.48%
	Brown Trout	10.98%
	Brook Trout	10.67%
	Cutthroat Trout	6.71%
	Burbot	5.79%
	Arctic Grayling	1.22%
	Common Carp	0.61%
Ruby River (2.91% of days fished in this Region.)		
	Trout	38.72%
	Brown Trout	26.69%
	Rainbow Trout	24.44%
	Cutthroat Trout	3.38%
	Mountain Whitefish	2.63%
	Brook Trout	2.26%
	Arctic Grayling	0.38%
Upper Missouri River (1.28% of days fished in this Region.)		
	Trout	47.01%
	Rainbow Trout	17.09%
	Brook Trout	15.38%
	Arctic Grayling	6.84%
	Cutthroat Trout	5.98%
	Brown Trout	3.42%
	Common Carp	3.42%
Upper Yellowstone River (17.06% of days fished in this Region.)		
	Trout	57.51%
	Brown Trout	15.15%
	Rainbow Trout	12.52%
	Cutthroat Trout	7.45%
	Yellow Perch	2.37%
	Mountain Whitefish	0.83%
	Walleye	0.83%
	Rainbow Trout X Cutthroat Trout Hybrid	0.64%
	Brook Trout	0.13%
	Arctic Grayling	0.13%

Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for License Year 2013 (continued).

Drainage	Primary Species Fished for	Percent of days for species
Region: 4		
Belt Creek (1.73% of days fished in this Region.)		
	Trout	49.29%
	Rainbow Trout	29.29%
	Brook Trout	7.86%
	Brown Trout	7.14%
	Bass	3.57%
	Cutthroat Trout	0.71%
Marias River (7.24% of days fished in this Region.)		
	Walleye	62.33%
	Nothern Pike	11.30%
	Trout	7.88%
	Rainbow Trout	7.53%
	Brook Trout	1.71%
	Brown Trout	1.20%
	Yellow Perch	0.86%
	Sturgeon	0.86%
Missouri River - Dearborn (31.02% of days fished in this Region.)		
	Trout	57.47%
	Rainbow Trout	28.91%
	Brown Trout	6.71%
	Walleye	2.04%
	Channel Catfish	1.08%
	Cutthroat Trout	0.48%
	Yellow Perch	0.36%
	Mountain Whitefish	0.24%
	Rainbow Trout X Cutthroat Trout Hybrid	0.16%
	Nothern Pike	0.16%
	Brook Trout	0.12%
	Bass	0.12%
	Largemouth Bass	0.08%
	Kokanee salmon	0.04%
	Common Carp	0.04%
Missouri River - Judith (7.61% of days fished in this Region.)		
	Trout	36.16%
	Rainbow Trout	16.61%
	Walleye	9.77%
	Channel Catfish	7.49%
	Brook Trout	6.51%
	Brown Trout	5.54%
	Nothern Pike	4.23%
	Sturgeon	2.12%
	Yellow Perch	1.95%
	Bass	0.81%
	Bluegill	0.65%
	Paddlefish	0.49%
	Crappie	0.33%
	Common Carp	0.33%
	Cutthroat Trout	0.16%
	Freshwater Drum	0.16%
	Smallmouth Bass	0.16%

Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for License Year 2013 (continued).

Drainage	Primary Species Fished for	Percent of days for species
Musselshell River (2.28% of days fished in this Region.)		
	Trout	52.17%
	Rainbow Trout	21.74%
	Walleye	11.96%
	Brown Trout	3.80%
	Yellow Perch	3.26%
	Brook Trout	2.72%
	Bass	2.72%
	Cutthroat Trout	0.54%
	Channel Catfish	0.54%
	Bluegill	0.54%
Smith River (5.86% of days fished in this Region.)		
	Trout	49.05%
	Brown Trout	33.83%
	Rainbow Trout	8.25%
	Brook Trout	3.81%
	Cutthroat Trout	2.11%
	Burbot	0.21%
Sun River (5.56% of days fished in this Region.)		
	Trout	45.66%
	Rainbow Trout	33.18%
	Brown Trout	4.01%
	Channel Catfish	4.01%
	Nothern Pike	2.23%
	Cutthroat Trout	2.23%
	Walleye	1.34%
	Lake Trout	0.89%
	Yellow Perch	0.67%
	Arctic Grayling	0.67%
	Brook Trout	0.45%
	Bass	0.45%
	Kokanee salmon	0.22%
Teton River (1.44% of days fished in this Region.)		
	Yellow Perch	25.86%
	Trout	18.10%
	Common Carp	12.93%
	Brown Trout	10.34%
	Rainbow Trout	8.62%
	Walleye	6.90%
	Cutthroat Trout	6.03%
	Bass	4.31%
	Channel Catfish	3.45%
	Brook Trout	1.72%
	Nothern Pike	1.72%
Upper Milk River (0.16% of days fished in this Region.)		
	Yellow Perch	53.85%
	Rainbow Trout	46.15%

Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for License Year 2013 (continued).

Drainage	Primary Species Fished for	Percent of days for species
Upper Missouri River (36.39% of days fished in this Region.)		
	Trout	37.49%
	Walleye	33.67%
	Rainbow Trout	17.23%
	Kokanee salmon	2.69%
	Yellow Perch	2.69%
	Brown Trout	1.12%
	Bass	0.48%
	Lake Trout	0.41%
	Common Carp	0.41%
	Burbot	0.37%
	Nothern Pike	0.14%
	Sunfish	0.10%
	Brook Trout	0.10%
	Cutthroat Trout	0.07%
Region:	5	
Bighorn River (44.70% of days fished in this Region.)		
	Trout	59.25%
	Brown Trout	22.49%
	Rainbow Trout	12.08%
	Walleye	1.98%
	Bass	1.09%
	Smallmouth Bass	0.51%
	Largemouth Bass	0.31%
	Channel Catfish	0.27%
	Nothern Pike	0.19%
	Burbot	0.08%
	Sauger	0.08%
	Mountain Whitefish	0.08%
	Crappie	0.04%
	Common Carp	0.04%
Middle Yellowstone River (10.21% of days fished in this Region.)		
	Channel Catfish	27.38%
	Trout	24.15%
	Bass	12.41%
	Smallmouth Bass	5.27%
	Rainbow Trout	4.59%
	Walleye	3.91%
	Northern Pike X Muskie Hybrid	3.06%
	Sturgeon	2.72%
	Brown Trout	2.38%
	Common Carp	1.53%
	Sauger	1.19%
	Yellow Perch	1.02%
	Sunfish	0.51%
	Largemouth Bass	0.51%
	Bluegill	0.34%
	Crappie	0.34%
	Goldeye	0.17%
	Longnose Sucker	0.17%
	Burbot	0.17%

Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for License Year 2013 (continued).

Drainage	Primary Species Fished for	Percent of days for species
Musselshell River (2.00% of days fished in this Region.)		
	Trout	41.74%
	Channel Catfish	15.65%
	Bass	8.70%
	Kokanee salmon	7.83%
	Brown Trout	5.22%
	Northern Pike X Muskie Hybrid	4.35%
	Rainbow Trout	4.35%
	Brook Trout	1.74%
	Smallmouth Buffalo	1.74%
	Walleye	1.74%
	Smallmouth Bass	0.87%
Upper Yellowstone River (42.74% of days fished in this Region.)		
	Trout	62.74%
	Rainbow Trout	13.00%
	Brown Trout	6.34%
	Cutthroat Trout	5.28%
	Brook Trout	3.86%
	Walleye	3.62%
	Bass	0.33%
	Mountain Whitefish	0.24%
	Sucker	0.24%
	Goldeye	0.12%
	Golden Trout	0.08%
	Sunfish	0.08%
	Yellow Perch	0.08%
	Largemouth Bass	0.04%
	Lake Trout	0.04%
	Burbot	0.04%
	Arctic Grayling	0.04%
Region:	6	
Fort Peck Reservoir (53.50% of days fished in this Region.)		
	Walleye	63.26%
	Nothern Pike	20.18%
	Paddlefish	6.54%
	Channel Catfish	3.34%
	Trout	1.71%
	Bass	1.28%
	Rainbow Trout	0.78%
	Lake Trout	0.50%
	Chinook Salmon	0.36%
	Smallmouth Bass	0.21%
	Freshwater Drum	0.14%
	Sturgeon	0.07%
Lower Milk River (2.36% of days fished in this Region.)		
	Walleye	38.71%
	Channel Catfish	35.48%
	Sauger	11.29%
	Trout	6.45%
	Nothern Pike	4.84%

Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for License Year 2013 (continued).

Drainage	Primary Species Fished for	Percent of days for species
Lower Missouri River (3.08% of days fished in this Region.)		
	Nothern Pike	43.21%
	Walleye	34.57%
	Sauger	13.58%
	Common Carp	2.47%
Middle Milk River (21.56% of days fished in this Region.)		
	Walleye	36.86%
	Trout	36.51%
	Yellow Perch	9.70%
	Rainbow Trout	5.29%
	Nothern Pike	4.06%
	Brook Trout	2.29%
	Channel Catfish	1.06%
	Bass	0.71%
	Common Carp	0.53%
	Brown Trout	0.53%
	Smallmouth Bass	0.35%
Missouri River - Judith (1.37% of days fished in this Region.)		
	Trout	44.44%
	Rainbow Trout	27.78%
	Brown Trout	11.11%
	Nothern Pike	8.33%
	Bass	5.56%
	Channel Catfish	2.78%
Missouri River - Poplar (7.03% of days fished in this Region.)		
	Walleye	37.30%
	Trout	22.16%
	Nothern Pike	16.76%
	Rainbow Trout	12.43%
	Common Carp	2.70%
	Brown Trout	1.08%
	Paddlefish	1.08%
	Channel Catfish	0.54%
	Sauger	0.54%
Upper Milk River (10.65% of days fished in this Region.)		
	Walleye	70.00%
	Nothern Pike	15.71%
	Trout	7.14%
	Yellow Perch	2.86%
	Brook Trout	1.07%
	Rainbow Trout	1.07%
Region:	7	
Fort Peck Reservoir (2.64% of days fished in this Region.)		
	Walleye	60.71%
	Nothern Pike	32.14%
	Rainbow Trout	7.14%
Little Missouri River (0.28% of days fished in this Region.)		
	Yellow Perch	66.67%
	Channel Catfish	33.33%

Table 11. Percent of Trips for each Primary Species Fished for - by Region and Drainage for License Year 2013 (continued).

Drainage	Primary Species Fished for	Percent of days for species
Lower Yellowstone River (53.64% of days fished in this Region.)		
	Channel Catfish	40.49%
	Paddlefish	12.85%
	Walleye	12.15%
	Nothern Pike	8.27%
	Sauger	5.28%
	Bass	3.52%
	Bluegill	2.99%
	Yellow Perch	2.46%
	Trout	2.11%
	Smallmouth Bass	1.41%
	Largemouth Bass	1.23%
	Brown Trout	0.88%
	Sturgeon	0.53%
	Goldeye	0.53%
	Crappie	0.53%
	Rainbow Trout	0.35%
	Sauger X Walleye Hybrid	0.35%
	Cutthroat Trout	0.18%
Powder River (1.98% of days fished in this Region.)		
	Trout	52.38%
	Channel Catfish	28.57%
	Rainbow Trout	14.29%
	Sturgeon	4.76%
Tongue River (41.45% of days fished in this Region.)		
	Walleye	35.31%
	Crappie	20.96%
	Channel Catfish	13.90%
	Bass	9.34%
	Yellow Perch	4.56%
	Nothern Pike	4.56%
	Trout	3.19%
	Smallmouth Bass	1.59%
	Black Crappie	1.14%
	Rainbow Trout	0.68%
	Longnose Sucker	0.46%
	Common Carp	0.46%

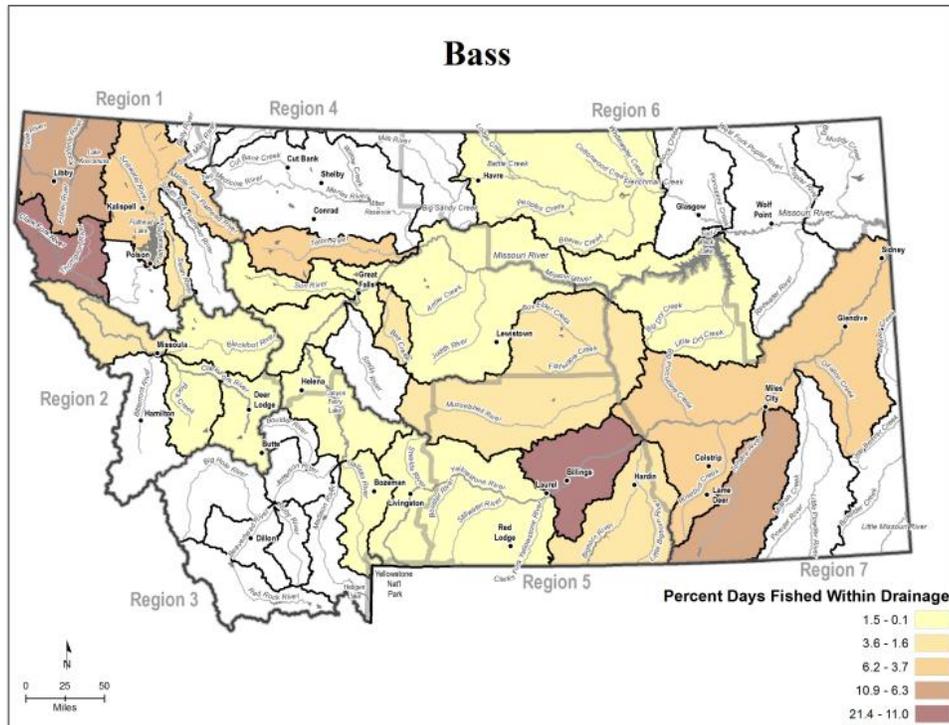


Figure 2: Percent of days fished in a drainage that specified Bass as the primary species fished for.

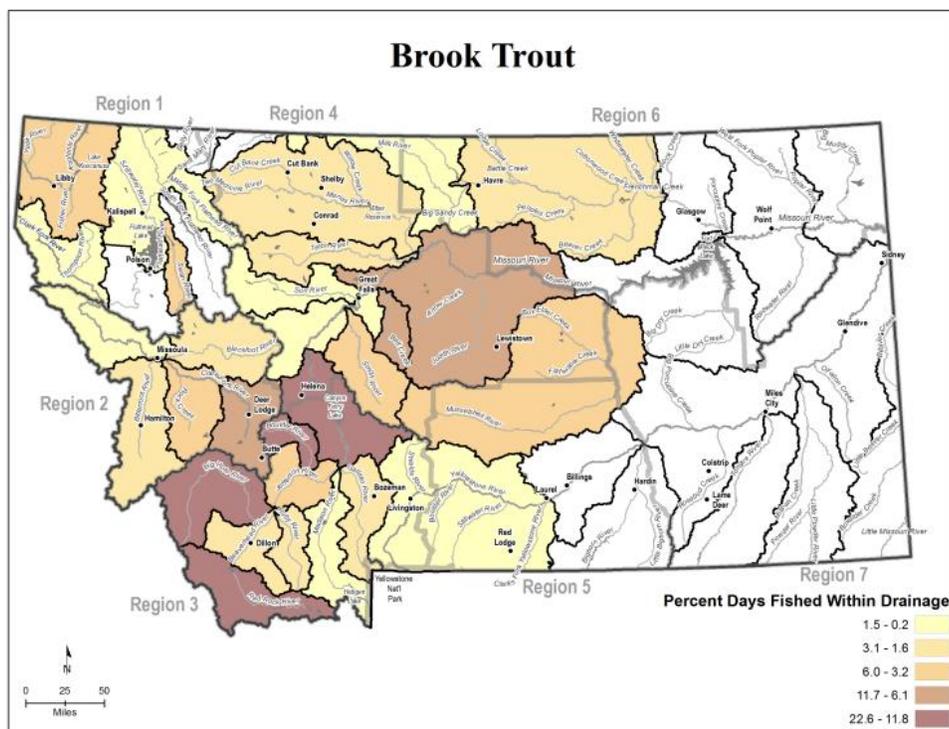


Figure 3: Percent of days fished in a drainage that specified Brook Trout as the primary species fished for.

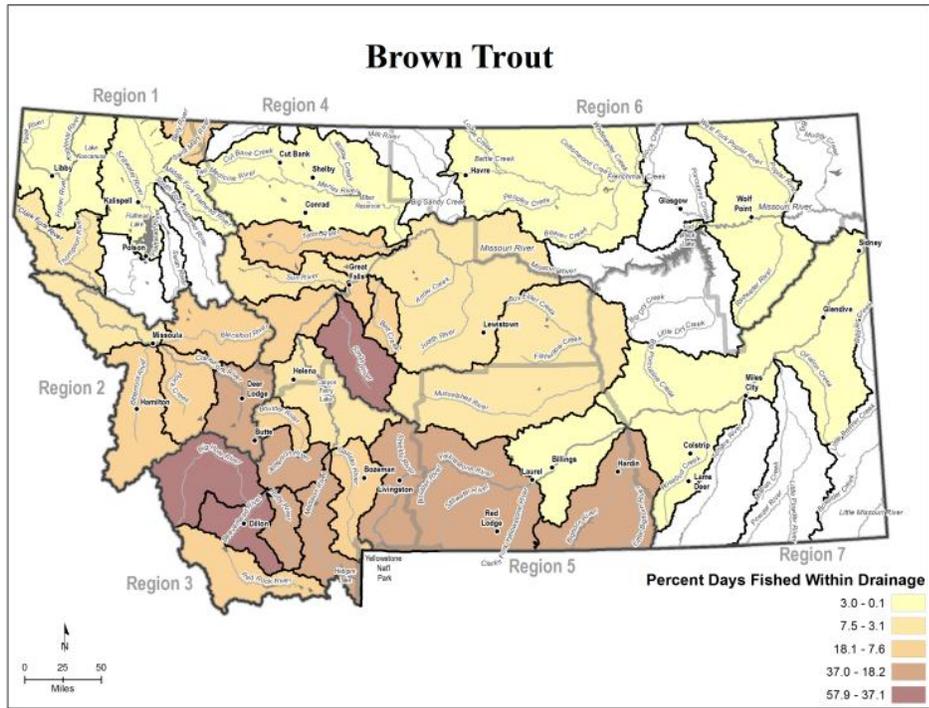


Figure 4: Percent of days fished in a drainage that specified Brown Trout as the primary species fished for.

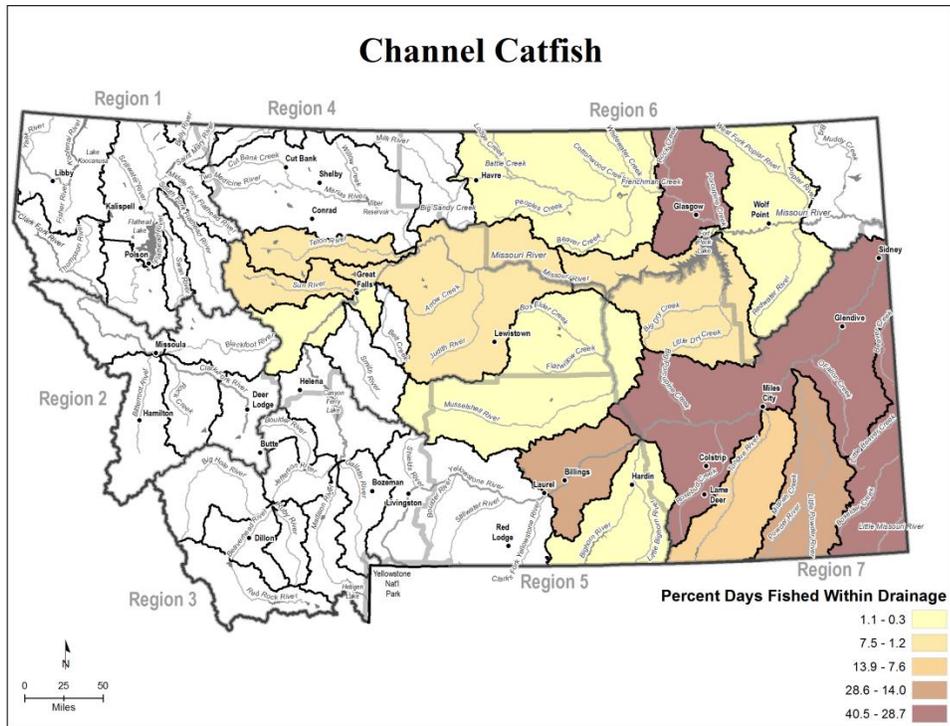


Figure 5: Percent of days fished in a drainage that specified Channel Catfish as the primary species fished for.

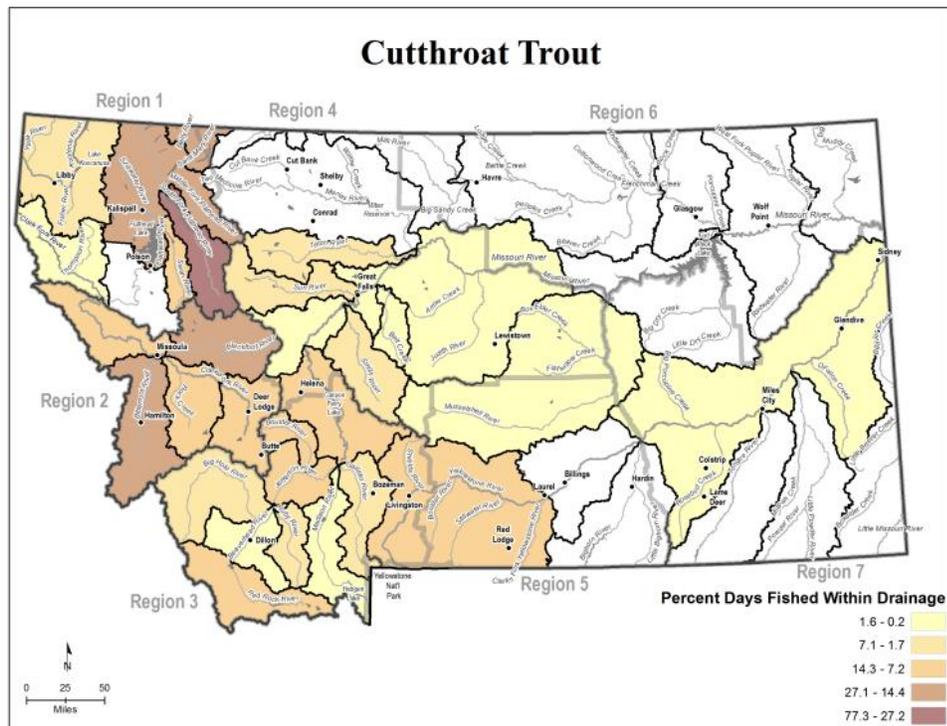


Figure 6: Percent of days fished in a drainage that specified Cutthroat Trout as the primary species fished for.

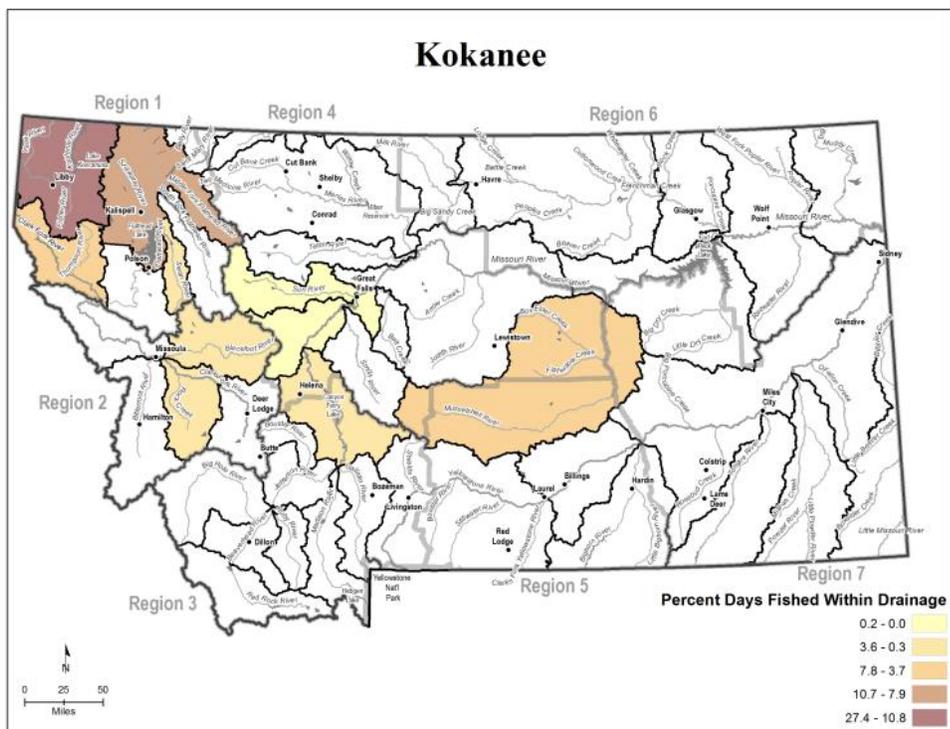


Figure 7: Percent of days fished in a drainage that specified Kokanee as the primary species fished for.

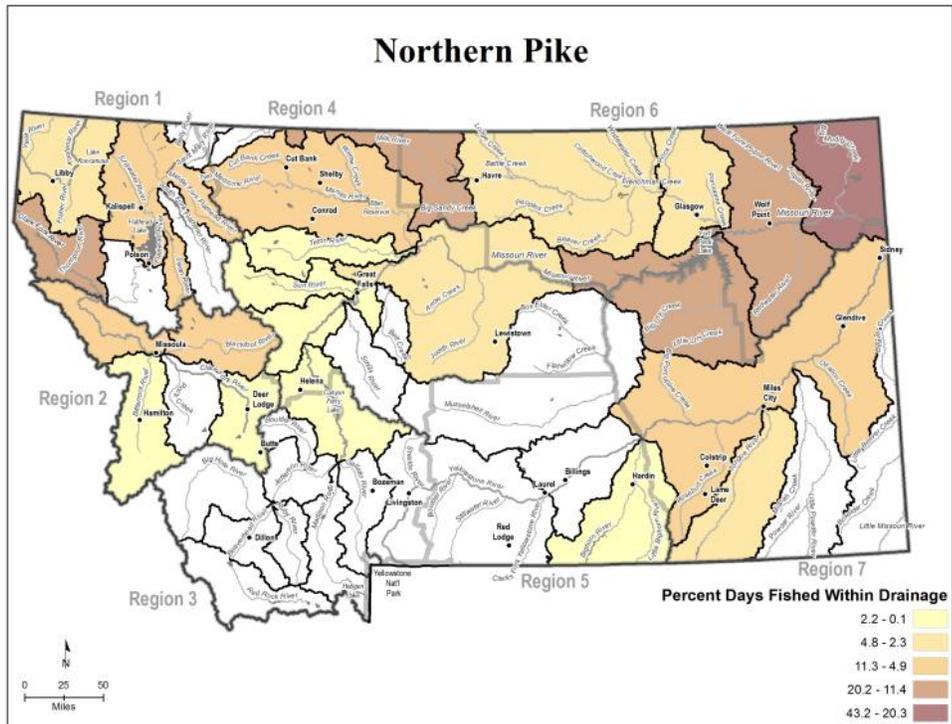


Figure 8: Percent of days fished in a drainage that specified Northern Pike as the primary species fished for.

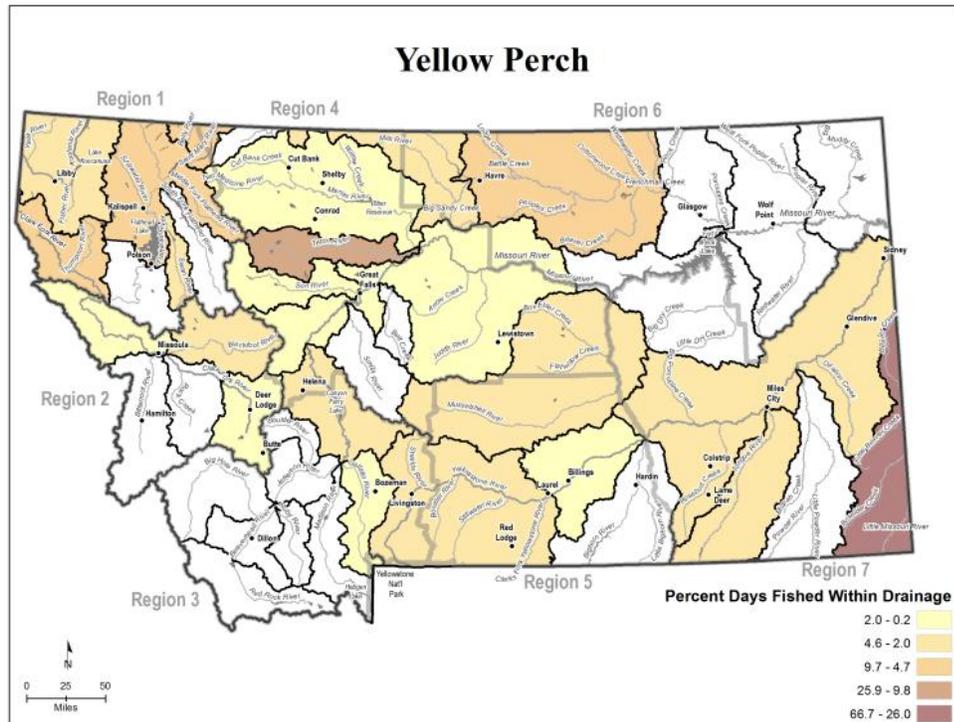


Figure 9: Percent of days fished in a drainage that specified Yellow Perch as the primary species fished for.

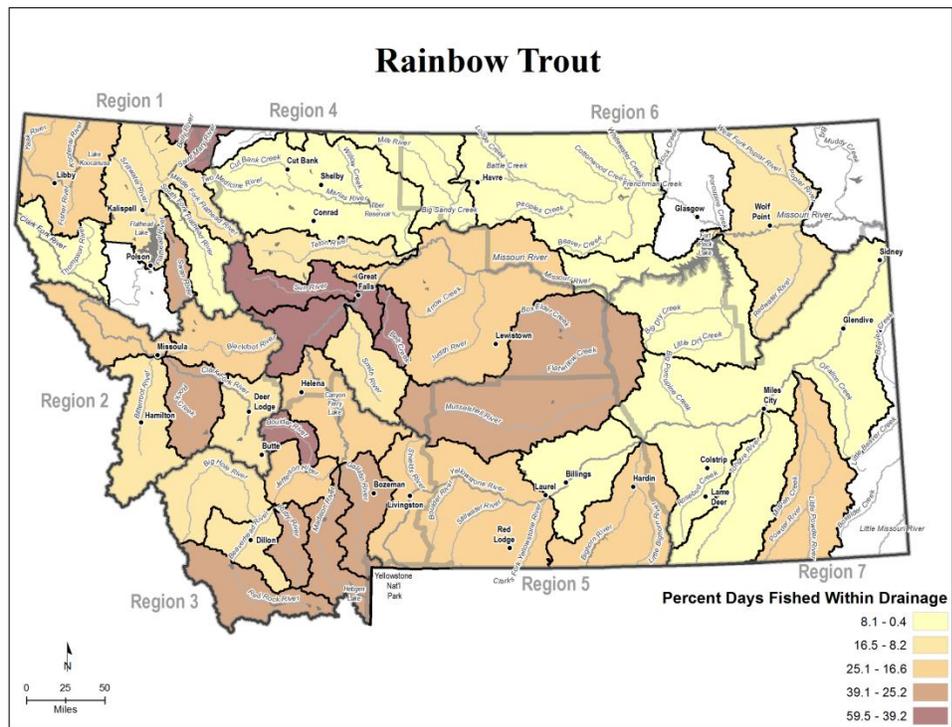


Figure 10: Percent of days fished in a drainage that specified Rainbow Trout as the primary species fished for.

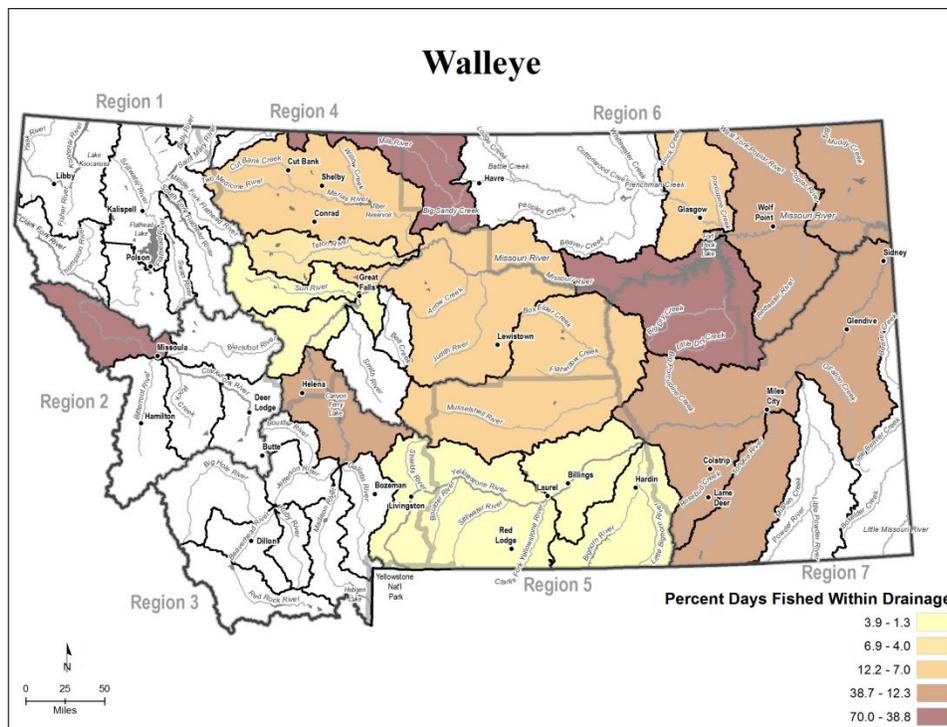


Figure 11: Percent of days fished in a drainage that specified Walleye as the primary species fished for.

3.5 TACKLE USE

Tackle use as reported by anglers is summarized by drainage, Region and Fishing District in Tables 12 and 13. Interpretation of these data must be done within the context of the Montana fishing regulations in place during the 2013-2014 survey. Montana does not restrict the types of artificial bait anywhere and so is standardized on a statewide basis. However, there are differences in the number of lines and hooks per line which are allowed, with the numbers being identical in the western and central districts but more liberal in the eastern district. Regulations on the use of live and dead bait vary by fishing district, and are summarized as follows:

- Western District: Use of live fish is prohibited. Use of dead fish is allowed, and non-game fish (except for sculpins) may be used whole, while most game fish species may be used, but only as pieces. Live animals such as meal worms, red worms, night crawlers, leeches, maggots, crayfish, reptiles, amphibians and insects are allowed on waters not restricted to artificial lures and flies.
- Central District: Use of live fish is prohibited, except for two reservoirs (Tiber and Bighorn) and portions of seven rivers/drainages (Teton, Marias, Yellowstone, Clarks Fork Yellowstone, Muddy Creek, Bighorn, Missouri), where most non-game species are allowed. Use of dead fish is allowed, and non-game fish (except for sculpins) may be used whole, while most game fish species may be used, but only as pieces. Live animals such as meal worms, red worms, night crawlers, leeches, maggots, crayfish, reptiles, amphibians and insects are allowed on waters not restricted to artificial lures and flies.
- Eastern District: Use of live fish is allowed in most waters, with the exception of portions of two river drainages (Milk and Beaver Creek) and numerous reservoirs. Most non-game species may be used as live bait. Use of dead fish is allowed, and non-game fish (except for sculpins) may be used whole, while most game fish species may be used, but only as pieces. Live animals such as meal worms, red worms, night crawlers, leeches, maggots, crayfish, reptiles, amphibians and insects are allowed on waters not restricted to artificial lures and flies.

Use of live fish was reported by a few anglers (1-2%) in the Flathead, lower Clark Fork and Blackfoot River drainages (Table 12), even though this is not allowed by regulations. In other drainages, live bait use was highest in the northeastern and southeastern portions of the state. The highest proportion of anglers fishing with live fish was 23% in the Upper Milk and 60% in the lower Missouri, for lakes and streams, respectively. This does not include the Little Missouri which had a very percentage (50%), but a very low sample size (n=2).

In the Western Fishing District, artificial flies were the most popular tackle type for stream anglers (59% of anglers), followed by plugs, spinners and spoons (18%)(Table 13). For lakes in the Western District, plugs, spinners and spoons were used by the most anglers (27%), followed by night crawlers (16%). Central District stream anglers were very similar to those in the Western District: 59% chose artificial flies, followed by plugs, spinners and spoons (16%). Central District lake anglers however, chose nightcrawlers as the primary tackle (29%) followed by plugs, spinner sand spoons (22%). In the Eastern District, artificial flies were still the primary tackle type for stream anglers, but at a much lower level (35%) than in the other Districts. This was followed in popularity by night crawlers (19%). Lake anglers in the Eastern District preferred nightcrawlers (27%) followed by plugs, spinners and spoons (20%). The use of live fish in the Western District was 1% for both lakes and streams. As mentioned previously, this is not allowed by regulations. Live fish use in the Central District was 0% in streams and 1% in lakes,

while these percentages jumped considerably in the Eastern District where 6% used live fish on streams and 10% on lakes.

Tackle use as a function of the primary species being fished for is provided in Table 14. An important limitation to these comparisons is that anglers may have been fishing for more than one species and it is therefore likely that not all tackle types were used when fishing for the primary species. When fishing for salmonids, artificial bait was the most popular choice for most species, with artificial flies being first followed by lures (plugs, spinner, spoons). When live bait was used to fish for salmonids, the most popular choice was often night crawlers. For the most popular cool-water species (walleye and northern pike), lures were the most popular artificial tackle, while night crawlers were the most popular type of live bait.

The top 10 species being targeted with live and dead bait in each fishing district is provided in Table 15. Trout were the most targeted species when using live bait in both the Western and Central Fishing Districts, while walleye was the most targeted species using live bait in the Eastern Fishing District. When using dead bait, northern pike were the most sought species in the Western District, while trout and channel catfish were the most sought species in the Central and Eastern Districts, respectively.

On the questionnaire, anglers who indicated that they used fish as bait were asked to provide a species. Of the 647 anglers that used fish as bait, only 71% provided a species (Table 16). Minnows, shiners and suckers were the top three species groups listed as being used as live bait. Smelt was the dominant species listed for whole fish dead bait, followed by northern pikeminnow. Suckers were the most frequently listed species used as pieces/parts, followed closely by yellow perch and smelt.

Some of the responses suggest that a few anglers may have been confused by the format of the questionnaire, and therefore entered information incorrectly. An example is the reporting of the use of smelt as live bait, much of it in the Western Fishing District, where wild smelt do not occur. These perhaps should have been entered in the dead fish bait column. Another example is the 18 responses which describe the use of fish in situations not allowed by the fishing regulations (double asterisks in Table 16). Given that these anglers voluntarily provided this information, it is likely that they either incorrectly reported the information or were not aware of the fishing regulations regarding bait use.

With respect to the violations of the use of live fish, the northern pikeminnow, peamouth and cisco were used in the Western Fishing District where the use of any live bait is prohibited. The northern pike, walleye and yellow perch were used in the Eastern Fishing District where the use of live game fish is prohibited. The use of rainbow smelt and carp was also in the Eastern Fishing District where both species are included in a list of non-game species that may not be used as live bait. The violations for the use of whole dead fish included northern pike, cisco, bass and yellow perch. This is a violation because whole game fish may not be used as bait anywhere in the state. The use of parts/pieces of lake trout, kokanee and whitefish are a violation because eggs are the only part of salmonids that may be used as bait anywhere in the state.

These violations suggest a need to review the bait regulations for clarity and consider alternative ways to describe and present them in the regulation booklet. The challenge facing anglers who are trying to understand these regulations comes from the fact that they are different for each District, and within each District there are also differences between salmonids and non-salmonids, game fish and non-game fish, live fish and dead fish, and whole fish and fish used as pieces.

Table 12. Percent of days fished by drainage for each type of tackle for License Year 2013.

		Artificial Bait 1= Artificial flies 2= Artificial or manmade bait 3= Other 4= Plastic scented bait 5= Plastic unscented bait 6= Plus, spinners, spoons						Dead Bait 7= Eggs 8= Fish pieces or parts 9= Whole fish			Live Bait 10= Maggots 11= Amphibians/reptiles 12= Bait fish 13= Leeches 14= Insects 15=Night crawlers or worms 16= Crayfish 17= Meal worms								
		Total Days Fished	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Region: 1																			
Flathead River																			
Sreams	1,166	44%	3%	3%	2%	6%	21%	3%	5%	2%	1%		2%			8%		0%	
Lakes	2,826	6%	12%	3%	4%	7%	28%	2%	7%	3%	8%		2%	0%	0%	13%	2%	3%	
Kootenai River																			
Sreams	489	40%	4%	6%	1%		19%	6%	3%		1%						19%		1%
Lakes	1,362	10%	12%	2%	4%	7%	28%	2%	1%	1%	17%				0%	15%	0%	1%	
Lower Clark Fork River																			
Sreams	713	26%	7%	1%	5%	5%	30%	0%	2%	2%	1%		1%		0%	19%		1%	
Lakes	1,397	4%	4%	1%	12%	16%	29%	1%	4%	4%	4%		1%	1%		20%	0%	1%	
South Fork Flathead River																			
Sreams	152	57%	1%	3%			18%	6%									16%		
Lakes	172	24%	13%			6%	37%	7%	3%		1%						9%		
Swan River																			
Sreams	108	40%	2%	7%		6%	27%			5%							14%		
Lakes	272	17%	14%	1%	3%	7%	37%	1%	5%	0%	4%		1%				11%		
Regional Total																			
Sreams	2,650	39%	4%	3%	2%	4%	23%	3%	3%	2%	1%		1%		0%	14%		1%	
Lakes	6,083	7%	10%	2%	6%	9%	29%	2%	4%	3%	9%		1%	0%	0%	15%	1%	2%	
Unknown	27	44%	15%	15%		4%	22%												
Region: 2																			
Bitterroot River																			
Sreams	1,538	72%	2%	1%		1%	16%	0%		0%	1%		0%		1%	6%			
Lakes	133	41%	14%	3%	2%	9%	20%				1%					11%			
Blackfoot River																			
Sreams	1,078	69%	1%	3%	1%	2%	11%		1%	1%	1%		0%		1%	8%		0%	
Lakes	928	13%	12%	4%	3%	4%	28%	1%	1%	4%	5%		1%	0%		21%	0%	2%	
Clark Fork River - Flint / Rock																			
Sreams	1,017	82%	4%	0%	1%	1%	10%				1%						1%		
Lakes	1,231	29%	11%	2%	1%	3%	21%	2%	1%		10%		0%			19%		1%	
Middle Clark Fork River																			
Sreams	994	57%	3%	4%	1%	2%	19%	0%	0%	1%	1%		0%	0%	0%	11%		1%	
Lakes	103	17%	9%	5%		14%	29%				5%					21%			
Upper Clark Fork River																			
Sreams	462	61%	4%	0%		1%	25%	1%									7%		
Lakes	54	48%	6%			4%	31%				4%						7%		
Regional Total																			
Sreams	5,089	69%	2%	2%	1%	1%	15%	0%	0%	0%	1%		0%	0%	0%	7%		0%	
Lakes	2,449	24%	11%	3%	1%	4%	24%	1%	1%	1%	7%		0%	0%		19%	0%	1%	
Unknown	35	57%		9%			9%	9%								14%		3%	

Table 12. Percent of days fished by drainage for each type of tackle for License Year 2013 (continued).

		Artificial Bait 1= Artificial flies 2= Artificial or manmade bait 3= Other 4= Plastic scented bait 5= Plastic unscented bait 6= Plus, spinners, spoons						Dead Bait 7= Eggs 8= Fish pieces or parts 9= Whole fish			Live Bait 10= Maggots 11= Amphibians/reptiles 12= Bait fish 13= Leeches 14= Insects 15=Night crawlers or worms 16= Crayfish 17= Meal worms								
		Total Days Fished	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Region: 3																			
Beaverhead River																			
	Sreams	620	72%	2%	1%		1%	10%	0%	0%								13%	
	Lakes	17	41%	6%				24%										29%	
Big Hole River																			
	Sreams	1,330	66%	2%	1%	0%	3%	14%				2%			0%	2%	9%		0%
	Lakes	77	45%	4%	1%		3%	30%				4%				3%	10%		
	Unknown	2	100%																
Boulder River																			
	Sreams	104	79%		1%			5%										15%	
	Lakes	22	27%	27%														45%	
Gallatin River																			
	Sreams	1,927	64%	3%	1%	0%	4%	13%	0%		0%			0%		0%	13%	0%	1%
	Lakes	270	20%	11%	1%	3%	6%	24%	1%	1%		2%					30%		1%
Jefferson River																			
	Sreams	259	38%	3%			2%	26%	5%	3%		1%	2%				19%		
	Lakes	153	12%	11%	3%	5%	7%	20%				3%					36%		3%
Madison River																			
	Sreams	2,369	83%	2%	0%	0%	1%	7%	0%		0%	0%				1%	5%		0%
	Lakes	1,008	40%	7%	2%	1%	4%	25%	0%	1%		2%			1%		14%		3%
Red Rock River																			
	Sreams	150	37%	2%	2%		14%	19%		1%							11%		14%
	Lakes	389	16%	12%	4%	2%	6%	23%	1%	4%	0%	2%			1%		24%		5%
Ruby River																			
	Sreams	190	82%			2%	2%	14%										2%	
	Lakes	194	11%	14%	4%	3%	2%	11%	8%			6%				2%	25%		14%
Upper Missouri River																			
	Sreams	138	27%	4%			6%	29%				2%			1%		31%		
	Lakes	51	49%					24%	2%							6%	20%		
Upper Yellowstone River																			
	Sreams	1,585	73%	5%		0%	1%	17%			0%						4%		0%
	Lakes	170	16%	8%	2%	5%	6%	19%	1%			1%			8%		33%		
Regional Total																			
	Sreams	8,672	71%	3%	1%	0%	2%	13%	0%	0%	0%	0%	0%	0%	0%	0%	9%	0%	1%
	Lakes	2,351	28%	9%	2%	2%	5%	23%	1%	1%	0%	2%			1%	0%	22%		4%
	Unknown	28	46%	4%		11%	4%	18%									18%		

Table 12. Percent of days fished by drainage for each type of tackle for License Year 2013 (continued).

		Artificial Bait 1= Artificial flies 2= Artificial or manmade bait 3= Other 4= Plastic scented bait 5= Plastic unscented bait 6= Plus, spinners, spoons						Dead Bait 7= Eggs 8= Fish pieces or parts 9= Whole fish			Live Bait 10= Maggots 11= Amphibians/reptiles 12= Bait fish 13= Leeches 14= Insects 15=Night crawlers or worms 16= Crayfish 17= Meal worms								
		Total Days Fished	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Region: 4																			
Belt Creek																			
	Sreams	182	42%	6%				21%	1%			1%			2%		26%		2%
Marias River																			
	Sreams	134	35%	4%		5%	12%	19%		3%					3%		17%		1%
	Lakes	1,366	3%	5%	2%	8%	8%	20%	1%	0%	3%	2%		7%	12%		26%	0%	2%
Missouri River - Dearborn																			
	Sreams	3,306	51%	7%	1%	1%	4%	16%	2%	0%		0%	1%	1%	0%	15%	0%	1%	
	Lakes	62	6%	21%	2%	5%	13%	19%				2%			2%		27%		3%
Missouri River - Judith																			
	Sreams	842	19%	7%	1%	3%	9%	22%	1%	1%				4%	1%	0%	30%		2%
	Lakes	307	9%	20%	3%	3%	3%	15%	4%	1%		5%			1%	1%	35%		3%
Musselshell River																			
	Sreams	29	24%	10%		10%	10%	28%									17%		
	Lakes	319	3%	14%	1%	4%	9%	21%	3%	3%		1%		1%	2%	1%	39%		0%
Smith River																			
	Sreams	433	76%	2%	1%	0%	0%	14%	0%	0%						1%	5%		
	Lakes	222	18%	13%	0%	2%	6%	21%	1%	3%		5%		4%		1%	23%		4%
Sun River																			
	Sreams	295	32%	9%	1%	1%	0%	21%		1%				1%		2%	27%		6%
	Lakes	486	9%	19%	2%	4%	4%	16%	9%	1%	0%	4%		1%	0%	0%	27%		4%
Teton River																			
	Sreams	59	44%	2%	3%		5%	14%									32%		
	Lakes	128	12%	6%		6%	11%	15%		6%	1%	2%		4%	6%		27%		4%
Upper Milk River																			
	Sreams	5	100%																
	Lakes	30		3%							23%			23%			27%		23%
Upper Missouri River																			
	Sreams	853	31%	3%	7%	4%	6%	19%	0%	0%	1%	2%		1%	1%		24%		0%
	Lakes	4,980	4%	8%	5%	5%	7%	24%	2%	0%	0%	3%		0%	7%	0%	33%	0%	1%
Regional Total																			
	Sreams	6,142	44%	6%	2%	2%	5%	17%	1%	0%	0%	0%		1%	1%	0%	19%	0%	1%
	Lakes	7,930	5%	9%	4%	5%	7%	22%	2%	1%	1%	3%		2%	7%	0%	31%	0%	2%
	Unknown	41	27%	10%		2%		12%	2%		5%	5%		2%			34%		

Table 12. Percent of days fished by drainage for each type of tackle for License Year 2013 (continued).

	Total Days Fished	Artificial Bait						Dead Bait			Live Bait						
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Region: 5																	
Bighorn River																	
Sreams	2,534	87%	1%	1%	0%	1%	7%	0%	0%			0%		0%	2%		0%
Lakes	315	23%	4%	6%	8%	9%	20%	0%	1%	1%		3%	3%		21%	1%	0%
Middle Yellowstone River																	
Sreams	1,054	6%	6%	3%	4%	6%	21%	1%	9%	2%	1%	11%	2%	0%	26%	1%	1%
Lakes	316	5%	20%	2%	3%	4%	20%	1%			5%	1%	5%		34%		1%
Musselshell River																	
Sreams	164	14%	6%	2%	6%	6%	18%		10%	10%		6%			22%		
Lakes	105	5%	14%	2%	5%	11%	25%	2%	1%				2%		33%		
Upper Yellowstone River																	
Sreams	2,558	48%	3%	1%	1%	2%	25%	0%	1%	0%	0%	0%	1%	2%	16%		1%
Lakes	961	23%	11%	2%	4%	5%	20%	1%	0%	0%	1%	1%	4%	0%	28%	0%	1%
Regional Total																	
Sreams	6,310	56%	3%	1%	1%	2%	17%	0%	2%	1%	0%	2%	1%	1%	12%	0%	0%
Lakes	1,697	19%	11%	2%	4%	6%	20%	1%	0%	0%	1%	1%	4%	0%	28%	0%	1%
Unknown	27	41%					19%								41%		
Region: 6																	
Fort Peck Reservoir																	
Sreams	400	3%	6%	14%	3%	3%	13%		9%	5%	1%	13%	1%		29%		1%
Lakes	2,978	1%	4%	4%	6%	9%	22%	0%	1%	1%		13%	11%		27%		0%
Lower Milk River																	
Sreams	128		2%	3%	1%	2%	9%		6%		1%	2%	23%	11%	40%		
Lakes	1						100%										
Lower Missouri River																	
Sreams	42			5%			2%				24%				10%		
Lakes	57	42%	9%			9%	19%				19%		2%				
Middle Milk River																	
Sreams	256	21%	6%	2%	1%	4%	17%		2%	1%	1%	2%			42%		1%
Lakes	740	6%	8%	6%	5%	6%	17%		1%	1%	2%	8%	6%		31%		3%
Unknown	53	21%	17%		2%		9%				4%	17%		2%	25%		4%
Missouri River - Judith																	
Sreams	64	8%	6%	3%		8%	38%				5%				25%		8%
Lakes	7					14%	43%								43%		
Missouri River - Poplar																	
Sreams	324	9%	4%	5%	1%	8%	31%	0%	0%	2%	1%	0%	11%	3%	24%		1%
Lakes	41						32%	5%		20%			20%		24%		
Upper Milk River																	
Sreams	97	4%	5%		6%	5%	16%			3%			13%		3%	39%	4%
Lakes	550	1%	4%	5%	11%	9%	19%		4%	6%	4%	0%	5%		29%		3%
Regional Total																	
Sreams	1,311	8%	5%	6%	2%	5%	19%	0%	4%	3%	1%	0%	12%	2%	0%	31%	1%
Lakes	4,379	3%	5%	4%	6%	8%	21%	0%	1%	2%	1%		10%	9%		28%	1%
Unknown	61	18%	15%		5%		8%			2%	5%		15%		3%	26%	3%

Table 12. Percent of days fished by drainage for each type of tackle for License Year 2013 (continued).

	Total Days Fished	Artificial Bait						Dead Bait			Live Bait							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Region: 7																		
Fort Peck Reservoir																		
Sreams	57		2%		7%	2%	21%		7%	5%			11%	5%		35%	5%	
Lakes	8			25%			25%									50%		
Little Missouri River																		
Sreams	2			50%												50%		
Lakes	2												50%			50%		
Lower Yellowstone River																		
Sreams	975	2%	6%	10%	7%	9%	12%	1%	13%	0%		1%	7%	3%		27%	0%	3%
Lakes	175	3%	6%	2%	6%	13%	18%			1%			7%	10%		34%		
Powder River																		
Sreams	13		15%							23%				15%			46%	
Lakes	14						43%										57%	
Tongue River																		
Sreams	385	5%	10%	1%	5%	9%	18%		5%	4%	3%	3%	6%	2%	3%	25%		3%
Lakes	695	3%	4%	4%	11%	13%	18%	0%	1%	0%			9%	8%		26%	0%	2%
Regional Total																		
Sreams	1,432	3%	7%	7%	6%	9%	14%	0%	10%	1%	1%	1%	7%	3%	1%	27%	0%	3%
Lakes	894	3%	4%	4%	9%	13%	19%	0%	1%	0%			8%	8%		28%	0%	2%

Table 13. Percent of days fished by district for each type of tackle for License Year 2013.

	Total Days Fished	Artificial Bait						Dead Bait			Live Bait							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Western Fishing District																		
Sreams	7,739	59%	3%	2%	1%	2%	18%	1%	1%	1%	1%		1%	0%	0%	9%		0%
Lakes	8,533	12%	10%	2%	4%	8%	27%	2%	3%	2%	8%		1%	0%	0%	16%	1%	2%
Unknown	62	52%	6%	11%		2%	15%	5%								8%		2%
Central Fishing District																		
Sreams	16,854	59%	4%	1%	1%	3%	16%	1%	0%	0%	0%	0%	0%	0%	1%	13%	0%	1%
Lakes	10,826	13%	10%	4%	4%	6%	22%	2%	1%	0%	3%		1%	4%	0%	29%	0%	2%
Unknown	96	36%	5%		4%	1%	16%	1%		2%	2%		1%			31%		
Eastern Fishing District																		
Sreams	6,992	35%	5%	3%	3%	5%	14%	0%	5%	2%	1%	0%	6%	1%	0%	19%	0%	1%
Lakes	6,424	3%	5%	4%	7%	9%	20%	0%	1%	2%	1%		10%	9%	0%	27%	0%	1%
Unknown	61	18%	15%		5%		8%			2%	5%		15%		3%	26%		3%

Table 14. Percent of trips (where tackle use was reported) for each type of tackle - by District and species fished for in License Year 2013.

Tackle_type	Description:	Eastern	Western	Central
Arctic Grayling				
Artificial	Artificial flies		26.2%	46.2%
	Plastic unscented bait		1.5%	
	Plugs, spinners, spoons		1.5%	7.7%
Dead	Eggs (specify species)		1.5%	1.5%
Live	Night crawlers or worms		1.5%	9.2%
Bass				
Artificial	Artificial flies	1.2%	2.9%	0.4%
	Artificial or manmade bait	0.6%	4.5%	0.1%
	Other (specify)		0.6%	0.5%
	Plastic scented bait	3.8%	8.3%	1.5%
	Plastic unscented bait	4.7%	12.1%	1.9%
	Plugs, spinners, spoons	6.4%	15.8%	3.7%
Dead	Fish pieces or parts (specify species)	2.1%	0.5%	0.1%
	Whole fish (specify species)	1.1%	0.5%	
Live	Bait fish (specify species)	1.2%		0.3%
	Crayfish		0.3%	
	Leeches	0.3%	0.5%	0.1%
	Maggots	1.0%	1.2%	1.0%
	Meal worms	0.2%	0.1%	0.2%
	Night crawlers or worms	5.1%	9.4%	3.4%
Black Crappie				
Artificial	Plastic unscented bait	100.0%		

Table 14. Percent of trips (where tackle use was reported) for each type of tackle - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Bluegill				
Artificial	Artificial flies	6.2%		7.7%
	Artificial or manmade bait	4.6%		
	Plastic scented bait	1.5%		
	Plastic unscented bait	4.6%		1.5%
	Plugs, spinners, spoons	6.2%	1.5%	6.2%
Dead	Eggs (specify species)		1.5%	3.1%
Live	Leeches	12.3%		
	Maggots		7.7%	
	Meal worms		4.6%	
	Night crawlers or worms	16.9%	6.2%	7.7%
Brook Trout				
Artificial	Artificial flies	0.7%	9.3%	22.6%
	Artificial or manmade bait		1.2%	1.5%
	Other (specify)		0.3%	0.7%
	Plastic scented bait			0.7%
	Plastic unscented bait		0.3%	2.7%
	Plugs, spinners, spoons	0.9%	7.6%	11.1%
Dead	Eggs (specify species)		0.2%	0.4%
	Fish pieces or parts (specify species)			0.1%
Live	Amphibians/reptiles (specify species)			0.6%
	Bait fish (specify species)			0.3%
	Insects (specify)	0.3%	0.2%	0.8%
	Leeches			0.1%
	Maggots		0.8%	1.2%
	Meal worms		0.2%	2.8%
	Night crawlers or worms	0.3%	8.9%	22.1%
Brook Trout X Brown Trout Hybrid				
Artificial	Artificial flies		100.0%	

Table 14. Percent of trips (where tackle use was reported) for each type of tackle - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Brown Trout				
Artificial	Artificial flies	11.9%	10.8%	41.9%
	Artificial or manmade bait	0.2%	0.5%	1.5%
	Other (specify)	0.2%	0.2%	0.9%
	Plastic scented bait	0.0%	0.4%	0.5%
	Plastic unscented bait	0.1%	0.1%	1.7%
	Plugs, spinners, spoons	1.8%	4.5%	11.7%
Dead	Eggs (specify species)	0.1%	0.0%	0.4%
	Fish pieces or parts (specify species)			0.2%
	Whole fish (specify species)			0.1%
Live	Insects (specify)	0.0%	0.1%	0.1%
	Leeches	0.1%		0.1%
	Maggots	0.1%	0.0%	0.3%
	Meal worms			0.1%
	Night crawlers or worms	0.7%	1.2%	7.0%
Bull Trout				
Artificial	Artificial flies		9.5%	
	Plastic unscented bait		9.5%	
	Plugs, spinners, spoons		19.0%	
Dead	Eggs (specify species)		9.5%	
	Fish pieces or parts (specify species)		33.3%	
Live	Night crawlers or worms		19.0%	

Table 14. Percent of trips (where tackle use was reported) for each type of tackle - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Burbot				
Artificial	Artificial or manmade bait			1.0%
	Other (specify)	33.3%	1.0%	6.7%
	Plastic scented bait			2.9%
	Plastic unscented bait	1.9%		8.6%
	Plugs, spinners, spoons			9.5%
Dead	Fish pieces or parts (specify species)			19.0%
	Whole fish (specify species)			8.6%
Live	Bait fish (specify species)			8.6%
	Leeches			8.6%
	Maggots			8.6%
	Night crawlers or worms	33.3%		16.2%
Channel Catfish				
Artificial	Artificial flies	0.1%	0.1%	0.4%
	Artificial or manmade bait	7.9%	0.1%	3.6%
	Other (specify)	1.9%		
	Plastic scented bait	2.5%		0.1%
	Plastic unscented bait	3.2%		0.8%
	Plugs, spinners, spoons	7.9%	0.1%	2.6%
Dead	Eggs (specify species)	0.3%		
	Fish pieces or parts (specify species)	13.4%		0.2%
	Whole fish (specify species)	1.7%		
Live	Amphibians/reptiles (specify species)	1.2%		
	Bait fish (specify species)	8.9%		0.2%
	Crayfish	0.6%		
	Insects (specify)	0.7%		
	Leeches	1.3%		1.7%
	Maggots	0.7%		
	Meal worms	2.1%		1.2%
	Night crawlers or worms	29.7%		4.2%

Table 14. Percent of trips (where tackle use was reported) for each type of tackle - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Chinook Salmon				
Artificial	Other (specify)	80.0%		
	Plugs, spinners, spoons	20.0%		
Common Carp				
Artificial	Artificial flies	11.4%		42.9%
	Artificial or manmade bait			22.2%
	Other (specify)	33.3%		5.7%
	Plastic unscented bait			4.3%
	Plugs, spinners, spoons	2.9%		14.3%
Live	Leeches	2.9%		
	Night crawlers or worms	2.9%		18.6%
Crappie				
Artificial	Artificial or manmade bait	5.3%		
	Other (specify)	4.9%	5.3%	
	Plastic scented bait	6.8%		
	Plastic unscented bait	18.1%		
	Plugs, spinners, spoons	20.0%		
Dead	Fish pieces or parts (specify species)		0.8%	
Live	Bait fish (specify species)	6.0%		0.4%
	Insects (specify)		0.8%	
	Leeches	3.4%		
	Maggots		4.5%	
	Meal worms	0.8%		
	Night crawlers or worms	19.6%		3.4%

Table 14. Percent of trips (where tackle use was reported) for each type of tackle - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Cutthroat Trout				
Artificial	Artificial flies		49.2%	19.1%
	Artificial or manmade bait		2.1%	2.3%
	Other (specify)		0.4%	0.4%
	Plastic scented bait			0.3%
	Plastic unscented bait		0.8%	0.3%
	Plugs, spinners, spoons		8.6%	4.8%
Dead	Eggs (specify species)		1.0%	0.3%
Live	Insects (specify)			0.3%
	Leeches			0.2%
	Maggots		0.4%	0.4%
	Meal worms		0.1%	
	Night crawlers or worms	0.1%	3.7%	3.3%
Freshwater Drum				
Live	Night crawlers or worms	100.0%		
Golden Trout				
Artificial	Artificial flies			87.5%
	Plugs, spinners, spoons			12.5%
Goldeye				
Artificial	Artificial or manmade bait			37.5%
	Plastic unscented bait	12.5%		
	Plugs, spinners, spoons	12.5%		
Live	Night crawlers or worms	37.5%		

Table 14. Percent of trips (where tackle use was reported) for each type of tackle - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Kokanee salmon				
Artificial	Artificial flies		5.6%	
	Artificial or manmade bait		14.5%	2.0%
	Other (specify)		2.9%	1.7%
	Plastic scented bait		1.2%	0.9%
	Plastic unscented bait		3.8%	0.4%
	Plugs, spinners, spoons		21.8%	1.2%
Dead	Eggs (specify species)		1.8%	0.1%
	Fish pieces or parts (specify species)		0.9%	0.3%
	Whole fish (specify species)			0.1%
Live	Bait fish (specify species)		0.7%	
	Crayfish		2.0%	
	Insects (specify)			0.1%
	Leeches			0.1%
	Maggots		25.3%	1.9%
	Meal worms		1.3%	0.1%
	Night crawlers or worms		8.2%	0.9%
Lake Trout				
Artificial	Artificial flies		5.8%	
	Artificial or manmade bait		8.7%	1.5%
	Other (specify)		3.4%	0.3%
	Plastic scented bait		8.9%	
	Plastic unscented bait		5.1%	
	Plugs, spinners, spoons	1.0%	42.7%	2.5%
Dead	Eggs (specify species)		2.4%	
	Fish pieces or parts (specify species)		17.7%	0.3%
	Whole fish (specify species)		3.4%	
Live	Bait fish (specify species)		4.6%	
	Leeches		0.7%	0.3%
	Maggots		1.1%	
	Meal worms		1.7%	
	Night crawlers or worms		7.0%	2.1%

Table 14. Percent of trips (where tackle use was reported) for each type of tackle - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Lake Whitefish				
Artificial	Artificial flies		20.0%	
	Artificial or manmade bait		20.0%	
	Plugs, spinners, spoons		40.0%	
Live	Maggots		20.0%	
Largemouth Bass				
Artificial	Artificial flies		1.7%	
	Artificial or manmade bait		1.3%	1.7%
	Plastic scented bait		20.9%	3.5%
	Plastic unscented bait	0.9%	19.6%	2.2%
	Plugs, spinners, spoons	0.9%	23.9%	5.7%
Dead	Fish pieces or parts (specify species)			1.7%
Live	Night crawlers or worms	2.2%	12.2%	1.7%
Longnose Sucker				
Live	Night crawlers or worms	100.0%		
Mountain Whitefish				
Artificial	Artificial flies	1.4%	12.2%	20.1%
	Artificial or manmade bait		3.6%	
	Other (specify)		7.2%	
	Plastic scented bait		2.9%	
	Plastic unscented bait		8.6%	0.7%
	Plugs, spinners, spoons		5.8%	6.5%
Dead	Eggs (specify species)		4.3%	
	Fish pieces or parts (specify species)		0.7%	
Live	Maggots		16.5%	0.7%
	Night crawlers or worms		2.9%	1.4%
Native Rainbow Trout				
Artificial	Artificial flies			100.0%

Table 14. Percent of trips (where tackle use was reported) for each type of tackle - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Northern Pike Minnow				
Artificial	Artificial flies		33.3%	
	Artificial or manmade bait		16.7%	
	Plastic scented bait		16.7%	
	Plugs, spinners, spoons		25.0%	
Live	Night crawlers or worms		16.7%	
Northern Pike X Muskie Hybrid				
Artificial	Artificial flies		1.7%	
	Artificial or manmade bait	22.4%		
	Plastic scented bait			3.4%
	Plastic unscented bait			3.4%
	Plugs, spinners, spoons	22.4%	6.9%	6.9%
Live	Night crawlers or worms	22.4%		10.3%
Northern Pike				
Artificial	Artificial flies	1.2%	2.2%	0.0%
	Artificial or manmade bait	2.6%	1.8%	0.5%
	Other (specify)	1.7%	1.5%	
	Plastic scented bait	2.1%	2.2%	0.2%
	Plastic unscented bait	5.4%	5.0%	0.3%
	Plugs, spinners, spoons	12.5%	17.2%	0.8%
Dead	Eggs (specify species)	0.1%	0.5%	0.1%
	Fish pieces or parts (specify species)	1.2%	2.8%	
	Whole fish (specify species)	3.1%	6.6%	0.3%
Live	Bait fish (specify species)	6.5%	0.8%	
	Crayfish		0.4%	
	Leeches	1.8%	0.0%	0.0%
	Maggots	0.1%	1.8%	0.1%
	Meal worms	1.0%	0.7%	
	Night crawlers or worms	8.4%	5.6%	0.4%

Table 14. Percent of trips (where tackle use was reported) for each type of tackle - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Paddlefish				
Artificial	Artificial or manmade bait	3.1%		
	Other (specify)	45.4%		
	Plastic scented bait	3.8%		
	Plastic unscented bait	3.8%		
	Plugs, spinners, spoons	6.5%		
Dead	Fish pieces or parts (specify species)	5.7%		
	Whole fish (specify species)	5.7%		
Live	Bait fish (specify species)	3.1%		
	Night crawlers or worms	18.7%		
Pallid Sturgeon				
Artificial	Artificial or manmade bait		100.0%	
Perch				
Artificial	Artificial flies		1.9%	
	Artificial or manmade bait		3.7%	3.7%
	Other (specify)			3.7%
	Plastic unscented bait		7.4%	7.4%
	Plugs, spinners, spoons		1.9%	9.3%
Dead	Fish pieces or parts (specify species)			11.1%
Live	Maggots		1.9%	9.3%
	Meal worms	1.9%		13.0%
	Night crawlers or worms		11.1%	13.0%

Table 14. Percent of trips (where tackle use was reported) for each type of bait - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Rainbow Trout				
Artificial	Artificial flies	4.6%	12.5%	33.1%
	Artificial or manmade bait	0.6%	3.8%	5.9%
	Other (specify)	0.1%	1.1%	1.4%
	Plastic scented bait	0.1%	0.3%	0.5%
	Plastic unscented bait		1.0%	2.4%
	Plugs, spinners, spoons	0.8%	6.4%	11.1%
Dead	Eggs (specify species)	0.0%	0.5%	0.6%
	Fish pieces or parts (specify species)	0.1%	0.7%	0.2%
	Whole fish (specify species)	0.0%		0.1%
Live	Bait fish (specify species)		0.1%	0.5%
	Crayfish		0.0%	0.3%
	Insects (specify)		0.0%	0.3%
	Leeches			0.2%
	Maggots		0.9%	1.0%
	Meal worms		0.4%	1.4%
	Night crawlers or worms	0.8%	5.7%	12.6%
Rainbow Trout X Cutthroat Trout Hybrid				
Artificial	Artificial flies		31.3%	31.3%
	Artificial or manmade bait			12.5%
Dead	Eggs (specify species)			12.5%
Live	Night crawlers or worms			12.5%

Table 14. Percent of trips (where tackle use was reported) for each type of bait - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Sauger				
Artificial	Other (specify)	2.6%		
	Plastic scented bait	7.0%		
	Plastic unscented bait	4.4%		
	Plugs, spinners, spoons	18.4%		
Dead	Fish pieces or parts (specify species)	14.9%		
	Whole fish (specify species)	8.8%		
Live	Bait fish (specify species)	24.6%		
	Night crawlers or worms	19.3%		
Sauger X Walleye Hybrid				
Live	Bait fish (specify species)	100.0%		
Smallmouth Bass				
Artificial	Artificial flies	4.3%	2.1%	0.7%
	Artificial or manmade bait	2.8%	1.4%	0.4%
	Other (specify)	0.4%	0.7%	
	Plastic scented bait	4.6%	5.3%	2.1%
	Plastic unscented bait	10.3%	5.7%	1.1%
	Plugs, spinners, spoons	11.3%	19.9%	2.1%
Dead	Fish pieces or parts (specify species)	0.7%	0.7%	
	Whole fish (specify species)			0.7%
Live	Bait fish (specify species)	2.8%		0.7%
	Crayfish			0.7%
	Leeches	1.1%		
	Meal worms	1.1%		
	Night crawlers or worms	6.0%	8.9%	1.4%
Smallmouth Buffalo				
Artificial	Plastic scented bait	100.0%		

Table 14. Percent of trips (where tackle use was reported) for each type of bait - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Sturgeon				
Artificial	Other (specify)	12.0%	8.0%	
	Plastic scented bait	3.2%		
	Plastic unscented bait	3.2%		
	Plugs, spinners, spoons	15.2%		
Dead	Fish pieces or parts (specify species)	11.2%		
Live	Bait fish (specify species)	24.0%		
	Night crawlers or worms	23.2%		
Sucker				
Artificial	Artificial flies			50.0%
Live	Night crawlers or worms			50.0%
Sunfish				
Artificial	Plastic scented bait			15.0%
	Plugs, spinners, spoons			15.0%
Live	Night crawlers or worms		15.0%	55.0%

Table 14. Percent of trips (where tackle use was reported) for each type of bait - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Trout				
Artificial				
	Artificial flies	7.8%	13.0%	30.9%
	Artificial or manmade bait	0.5%	1.3%	4.0%
	Other (specify)	0.1%	0.5%	1.2%
	Plastic scented bait	0.1%	0.1%	0.7%
	Plastic unscented bait	0.2%	0.5%	1.5%
	Plugs, spinners, spoons	1.3%	4.5%	11.8%
Dead				
	Eggs (specify species)	0.0%	0.4%	0.8%
	Fish pieces or parts (specify species)	0.0%	0.1%	0.2%
	Whole fish (specify species)	0.0%	0.0%	0.0%
Live				
	Bait fish (specify species)	0.1%	0.0%	0.2%
	Crayfish			0.0%
	Insects (specify)	0.0%	0.0%	0.4%
	Leeches	0.0%	0.0%	0.3%
	Maggots	0.0%	0.4%	0.6%
	Meal worms	0.1%	0.2%	0.6%
	Night crawlers or worms	1.3%	2.5%	11.1%
Upper Missouri Cutthroat				
Artificial				
	Artificial flies		66.7%	33.3%

Table 14. Percent of trips (where tackle use was reported) for each type of bait - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Walleye				
Artificial	Artificial flies	0.8%	0.1%	0.5%
	Artificial or manmade bait	2.3%	0.0%	1.5%
	Other (specify)	2.2%	0.1%	0.9%
	Plastic scented bait	4.8%	0.6%	2.4%
	Plastic unscented bait	5.7%	0.5%	3.5%
	Plugs, spinners, spoons	12.0%	1.0%	8.4%
Dead	Eggs (specify species)	0.0%	0.0%	0.6%
	Fish pieces or parts (specify species)	0.5%		0.2%
	Whole fish (specify species)	0.5%	0.0%	0.1%
Live	Bait fish (specify species)	6.3%		0.1%
	Crayfish	0.0%		0.1%
	Leeches	6.9%	0.0%	4.6%
	Maggots	0.3%	0.1%	0.3%
	Meal worms	0.7%		0.4%
	Night crawlers or worms	18.0%	1.3%	11.5%
West Slope Cutthroat Trout				
Artificial	Artificial flies		76.5%	1.8%
	Artificial or manmade bait		2.9%	
	Plastic unscented bait		0.6%	
	Plugs, spinners, spoons		1.8%	2.9%
Dead	Eggs (specify species)		0.6%	
Live	Insects (specify)		5.9%	
	Night crawlers or worms		4.7%	2.4%
Whitefish				
Artificial	Artificial or manmade bait		5.9%	
	Plastic unscented bait		5.9%	
	Plugs, spinners, spoons		41.2%	
Live	Maggots		23.5%	
	Night crawlers or worms		23.5%	

Table 14. Percent of trips (where tackle use was reported) for each type of bait - by District and species fished for in License Year 2013 (continued).

Tackle_type	Description:	Eastern	Western	Central
Yellow Perch				
Artificial				
	Artificial flies		1.9%	
	Artificial or manmade bait		3.7%	3.7%
	Other (specify)			3.7%
	Plastic unscented bait		7.4%	7.4%
	Plugs, spinners, spoons		1.9%	9.3%
Dead				
	Fish pieces or parts (specify species)			11.1%
Live				
	Maggots		1.9%	9.3%
	Meal worms	1.9%		13.0%
	Night crawlers or worms		11.1%	13.0%
Yellowstone Cutthroat Trout				
Artificial				
	Artificial flies			60.0%
	Plugs, spinners, spoons			40.0%

Table 15. Top 10 species targeted with live and dead bait in each district.

Western District		Central District		Eastern District	
Live	Dead	Live	Dead	Live	Dead
Trout	Nothern Pike	Trout	Trout	Walleye	Channel Catfish
Kokanee salmon	Lake Trout	Walleye	Walleye	Channel Catfish	Nothern Pike
Rainbow Trout	Trout	Rainbow Trout	Rainbow Trout	Nothern Pike	Walleye
Yellow Perch	Rainbow Trout	Brown Trout	Brown Trout	Trout	Bass
Nothern Pike	Yellow Perch	Brook Trout	Burbot	Yellow Perch	Paddlefish
Bass	Kokanee salmon	Yellow Perch	Yellow Perch	Bass	Sauger
Walleye	Cutthroat Trout	Channel Catfish	Nothern Pike	Crappie	Yellow Perch
Lake Trout	Bass	Cutthroat Trout	Kokanee salmon	Sturgeon	Trout
Brook Trout	Bull Trout	Bass	Brook Trout	Paddlefish	Sturgeon
Cutthroat Trout	Mountain Whitefish	Kokanee salmon	Cutthroat Trout	Rainbow Trout	Rainbow Trout

Table 16. Species of fish used as live or dead bait and reported on the 2013 angler questionnaire. Number of respondents is provided in parenthesis.

Live bait (348)	Dead bait-whole fish (163)	Dead bait-pieces/parts (136)
Species Not Reported (111)	Smelt (95)	Species Not reported (61)
Minnow (107)	Species Not Reported (16)	Sucker (41)
Shiner (42)	Northern pikeminnow (11)	Yellow perch (27)
Sucker (30)	Herring (9)	Smelt (25)
Smelt (14)*	Minnow (9)	Goldeye (21)
Fathead Minnow (14)	Shiner (7)	Northern Pikeminnow (16)
Chub (6)	Sucker (6)	Shiner (9)
Northern pike (4)**	Fathead Minnow (3)	Minnow (6)
Creek chub (3)	Sculpin (3)	Chub (6)
Northern pikeminnow (2)**	Shad (2)	Common Carp (5)
Flathead chub (2)	Bass (1)**	Northern Pike (4)
Cisco (2)**	Common Carp (1)	Whitefish (3)**
Walleye (1)**	Chub (1)	Peamouth (3)
Common Carp (1)**	Cisco (1)**	Fathead Minnow (3)
Peamouth (1)**	Goldeye (1)	Catfish (2)
Yellow Perch (1)**	Yellow Perch (1)**	Bullhead (2)
Goldeye (1)	Sunfish (1)	Shad (2)
Rainbow smelt (1)**	Northern Pike (1)**	Skip-jack (2)
		Bluegill (1)
		Freshwater Drum (1)
		Lake Chub (1)
		Herring (1)
		Burbot (1)
		Lake Trout (1)**
		Crappie (1)
		Kokanee (1)**

*Likely dead, purchased smelt and misreported in the live column by the angler

**Use is apparently a violation of fishing regulations

3.6 ANGLER ACCESS

On the questionnaire, anglers were asked if they had mostly fished from shore, boat, both shore and boat, or ice. When considered on a drainage basis (Table 17), the Fort Peck Reservoir had the lowest percentage (15.4%) fishing from shore and the highest percent fishing from boats (63.76%). Conversely, the Belt Creek drainage had the most fishing from shore (99.29%) and the least fishing from a boat (0%). For those drainages where there was ice fishing, the drainages with the least were the Bighorn River and the Missouri River – Dearborn (0.16%), while the Little Missouri, Lower Missouri, Marias, Middle Milk, Powder, Red Rock, Ruby, Tongue and Upper Milk drainages all had greater than 10% of the anglers fishing through the ice. The limited number of trips reported in the Little Missouri and Powder drainages limits the reliability of these percentages.

Region 6 had the lowest percentage of anglers fishing from shore (29.1%) while Region 3 had the greatest percent (59.5%) (Table 18). In terms of fishing from a boat, Region 5 was lowest (22.74%), while Region 1 was highest at 50.74%. Region 5 had the lowest level of ice anglers (0.7%), while Region 1 had the highest level (8.4%). Residents were more likely to fish from shore (49.2%) than were non-residents (44.9%) (Table 19). Residents were only slightly more likely to fish from a boat (34.9%) than nonresidents (32.2%), but nonresidents were slightly more likely to fish from both a boat and shore (18.04%) than residents (11.15%). Appendix F provides percentage of anglers accessing the water by each of these types for individual waterbodies.

Table 17. Angler types of fishing by drainage (total days fished and percentages).

Drainage Name	Shore	Boat	Shore/ Boat	Ice	Ice /Shore	Total Days
Beaverhead River	324 (56.74%)	150 (26.27%)	90 (15.76%)	2 (0.35%)		571
Belt Creek	139 (99.29%)					140
Big Hole River	584 (49.37%)	400 (33.81%)	194 (16.4%)			1183
Bighorn River	431 (16.74%)	767 (29.8%)	1351 (52.49%)	4 (0.16%)		2574
Bitterroot River	834 (57.24%)	367 (25.19%)	245 (16.82%)			1457
Blackfoot River	700 (47.81%)	471 (32.17%)	189 (12.91%)	82 (5.6%)		1464
Boulder River	108 (100%)					108
Clark Fork River - Flint / Rock	1056 (62.67%)	319 (18.93%)	175 (10.39%)	129 (7.66%)		1685
Flathead River	659 (27.42%)	1250 (52.02%)	247 (10.28%)	235 (9.78%)		2403
Fort Peck Reservoir	221 (15.4%)	915 (63.76%)	133 (9.27%)	143 (9.97%)		1435
Gallatin River	1644 (91.74%)	69 (3.85%)	48 (2.68%)	21 (1.17%)		1792
Jefferson River	136 (47.89%)	80 (28.17%)	60 (21.13%)	8 (2.82%)		284
Kootenai River	323 (31.89%)	562 (55.48%)	56 (5.53%)	70 (6.91%)		1013
Little Missouri River	2 (66.67%)			1 (33.33%)		3
Lower Clark Fork River	332 (29.99%)	577 (52.12%)	108 (9.76%)	90 (8.13%)		1107
Lower Milk River	43 (69.35%)	14 (22.58%)		5 (8.06%)		62
Lower Missouri River	70 (86.42%)	2 (2.47%)		9 (11.11%)		81
Lower Yellowstone River	414 (72.89%)	117 (20.6%)	24 (4.23%)	8 (1.41%)	5 (0.88%)	568
Madison River	1556 (53.6%)	866 (29.83%)	400 (13.78%)	68 (2.34%)		2903
Marias River	105 (17.98%)	352 (60.27%)	45 (7.71%)	75 (12.84%)		584
Middle Clark Fork River	463 (52.55%)	256 (29.06%)	148 (16.8%)	7 (0.79%)		881
Middle Milk River	278 (49.03%)	181 (31.92%)	20 (3.53%)	84 (14.81%)		567
Middle Yellowstone River	446 (75.85%)	85 (14.46%)	54 (9.18%)	3 (0.51%)		588
Missouri River - Dearborn	1127 (45.01%)	895 (35.74%)	461 (18.41%)	4 (0.16%)		2504
Missouri River - Judith	469 (72.15%)	88 (13.54%)	49 (7.54%)	41 (6.31%)		650
Missouri River - Poplar	86 (46.49%)	71 (38.38%)	26 (14.05%)	2 (1.08%)		185
Musselshell River	192 (64.21%)	64 (21.4%)	30 (10.03%)	13 (4.35%)		299
Powder River	12 (57.14%)	5 (23.81%)		4 (19.05%)		21
Red Rock River	167 (50.91%)	96 (29.27%)	19 (5.79%)	46 (14.02%)		328
Ruby River	182 (68.42%)	39 (14.66%)	12 (4.51%)	29 (10.9%)	3 (1.13%)	266
Smith River	146 (30.87%)	218 (46.09%)	95 (20.08%)	13 (2.75%)		473
South Fork Flathead River	166 (68.88%)	51 (21.16%)	24 (9.96%)			241
Sun River	350 (77.95%)	63 (14.03%)	15 (3.34%)	13 (2.9%)	8 (1.78%)	449
Swan River	103 (41.53%)	103 (41.53%)	34 (13.71%)	6 (2.42%)		248
Teton River	68 (58.62%)	30 (25.86%)	4 (3.45%)	9 (7.76%)		116
Tongue River	118 (26.88%)	218 (49.66%)	36 (8.2%)	64 (14.58%)		439
Upper Clark Fork River	303 (69.18%)	90 (20.55%)	41 (9.36%)	1 (0.23%)		438
Upper Milk River	91 (31.06%)	141 (48.12%)	9 (3.07%)	49 (16.72%)		293
Upper Missouri River	1012 (33.14%)	1635 (53.54%)	235 (7.69%)	156 (5.11%)		3054
Upper Yellowstone River	2400 (59.72%)	1116 (27.77%)	414 (10.3%)	71 (1.77%)		4019

Table 18. Angler types of fishing by Region (days fished and percentages).

Region	Shore	Boat	Shore/ Boat	Ice	Ice /Shore	Total
1	1583 (31.58%)	2543 (50.74%)	469 (9.36%)	401 (8%)		5012
2	3356 (56.64%)	1503 (25.37%)	798 (13.47%)	219 (3.7%)		5925
3	5421 (59.51%)	2394 (26.28%)	1036 (11.37%)	213 (2.34%)	3 (0.03%)	9110
4	3446 (43%)	3290 (41.05%)	892 (11.13%)	328 (4.09%)	8 (0.1%)	8014
5	2723 (47.46%)	1305 (22.74%)	1639 (28.56%)	41 (0.71%)		5738
6	783 (29.91%)	1327 (50.69%)	195 (7.45%)	283 (10.81%)		2618
7	548 (51.75%)	361 (34.09%)	62 (5.85%)	80 (7.55%)	5 (0.47%)	1059

Table 19. Angler types of fishing by residency within the state.

Residency	Shore	Boat	Shore/ Boat	Ice	Ice /Shore	Total Days
N	5948 (44.88%)	4267 (32.19%)	2391 (18.04%)	565 (4.26%)		13254
R	11912 (49.18%)	8456 (34.91%)	2700 (11.15%)	1000 (4.13%)	16 (0.07%)	24222

3.7 OUTFITTER USAGE ANALYSIS

The 2013 questionnaire asked how many days the angler fished with an outfitter. Results are shown in Table 20 by Region and drainage. Use of an outfitter was typically higher on rivers/streams than on lakes. For lakes, the highest use of outfitters on a water that receive substantial fishing pressure was Flathead Lake which had an outfitter usage rate of 9.07%. The highest outfitter usage for a major river was the Bighorn River, where between 31.26-40.95% of anglers used an outfitter on all three sections of the river. The range of outfitter usage for other major rivers included the Backfoot River (13.8-24.04%), the Madison River (6.94-23.88%), the Missouri River (1.09-19.16%), and the Yellowstone River (0.68-22.9%). The division of the major rivers into numerous sections allows for identification and quantification of areas where outfitting is highest. On the Yellowstone River for example, outfitting usage downstream of Reedpoint is 3.6% or lower, whereas between Livingston and Reedpoint it is at its highest (15.3-22.0%). Usage upstream of Livingston to Gardiner is still high, in the 14.7-22.9% range.

Table 20. Percentage of Days Fished with an Outfitter for Individual Waters with total Fishing Pressure Greater than 1000 days, March 2013 - February 2014.

Watercode	Total Trips			Pressure			Error			Percent Days Fished with Outfitter Error (+ or -)	
	Total Trips	Pressure	Error	Outfitter Total Trips	Pressure	Error	Outfitter	Error (+ or -)			
Region: 0											
Undesignated Statewide											
Undesignated Waters	000035	85	8720	3627	2	182	129	2.35%	3.94%		
Yellowstone River Drainage	002122	16	1144	473	6	455	239	37.50%	26.59%		
Region: 1											
Flathead River											
Flathead Lake	076400	463	46432	5982	42	3620	611	9.07%	2.65%		
Flathead River Sec 01	071540	71	5742	1400	2	197	140	2.82%	4.70%		
Flathead River Sec 02	071560	294	27258	3505	22	2230	524	7.48%	3.08%		
M Fk Flathead River	084740	118	10462	3068	22	2052	764	18.64%	7.21%		
N Fk Flathead River	085100	174	15490	3691	2	194	137	1.15%	1.93%		
Kootenai River											
Kootenai River	113500	173	18464	3826	27	2561	896	15.61%	5.52%		
Lake Koocanusa	118690	339	30241	4017	3	395	294	0.88%	1.15%		
Lower Clark Fork River											
Clark Fork River Sec 01	051440	321	30067	4274	14	1167	540	4.84%	2.56%		
South Fork Flathead River											
S Fk Flathead River above reservoir	086660	170	16495	3284	8	768	456	9.76%	6.84%		

Table 20. Percentage of Days Fished with an Outfitter for Individual Waters with total Fishing Pressure Greater than 1000 days, March 2013 - February 2014 (continued).

Watercode	Total Trips	Pressure	Error	Outfitter			Percent Days Fished with		
				Total Trips	Pressure	Error	Outfitter	Error (+ or -)	
Swan River									
Swan Lake	079000	64	6130	1358	4	434	329	6.25%	6.65%
Swan River Sec 01	074560	56	5182	1078	2	200	149	3.57%	5.95%
Swan River Sec 02	074580	25	2255	787	4	325	325	16.00%	16.30%
Undesignated R1									
Undesignated Waters R1	001000	24	1946	631	2	163	115	8.33%	13.65%
Region: 2									
Bitterroot River									
Bitterroot River Sec 01	030475	341	35215	5380	46	3884	890	13.49%	3.67%
Bitterroot River Sec 02	030500	614	56545	5648	139	11143	1552	22.64%	3.32%
E Fk Bitterroot River	031950	123	11750	2640	4	361	183	3.25%	3.50%
W Fk Bitterroot Reservoir	039625	35	3143	1144	2	167	121	5.71%	9.45%
W Fk Bitterroot River	036800	140	13054	2691	12	1129	474	8.57%	4.84%
Blackfoot River									
Blackfoot River Sec 01	040600	311	28992	3760	41	3494	797	13.18%	3.81%
Blackfoot River Sec 02	040630	211	18836	2454	50	4675	967	24.04%	5.88%
Blackfoot River Sec 03	040645	116	10476	2023	27	2254	724	22.69%	7.70%
Blackfoot River Sec 04	040660	99	8619	1816	3	244	244	3.03%	3.89%
N Fk Blackfoot River	043960	64	5990	1369	8	636	415	13.11%	9.04%
Clark Fork River - Flint / Rock									
Rock Creek Sec 01	065263	442	41070	4707	17	1388	547	3.85%	1.84%
Rock Creek Sec 02	065282	421	38122	4540	10	725	267	2.38%	1.52%
Middle Clark Fork River									
Clark Fork River Sec 02	051456	499	46950	5695	57	5277	1211	10.82%	2.68%
Clark Fork River Sec 03	061118	194	17664	3432	24	2141	609	12.37%	4.74%
Upper Clark Fork River									
Clark Fork River Sec 04	061121	109	9515	2833	15	1296	478	13.76%	6.70%
Clark Fork River Sec 05	061140	136	12725	3755	2	146	103	1.43%	2.40%
Region: 3									
Beaverhead River									
Beaverhead River	010500	513	48681	5600	110	9603	1397	21.44%	3.57%
Big Hole River									
Big Hole River Sec 01	020425	554	47089	4584	127	10432	1520	22.92%	3.52%
Big Hole River Sec 02	020450	352	29448	3547	62	4992	1065	17.61%	4.02%
Big Hole River Sec 03	020475	89	7202	1826	6	615	430	6.74%	5.64%
Gallatin River									
Gallatin River Sec 01	092090	131	11763	2064	2	124	91	1.53%	2.56%
Gallatin River Sec 02	096878	595	56887	5077	15	1630	567	2.52%	1.30%
Gallatin River Sec 03	096916	589	55940	4490	69	7211	1101	11.71%	2.62%
Jefferson River									
Jefferson River	103840	145	12554	2056	36	3134	689	24.83%	7.16%
Madison River									
Earthquake Lake	138160	60	5996	1567	3	282	163	5.00%	6.38%
Ennis Lake	137560	101	10682	2469	5	558	253	4.95%	4.64%
Hebgen Lake	137720	419	39864	4541	5	541	249	1.19%	1.14%
Madison River Sec 01	133400	461	41132	3564	46	4378	830	9.98%	2.77%
Madison River Sec 02	133440	1411	134433	8795	337	31202	2895	23.88%	2.23%
Madison River Sec 03	133520	245	24308	3616	17	1997	907	6.94%	3.28%
Red Rock River									
Red Rock River Sec 01	016140	22	2025	698	2	231	165	9.09%	14.85%
Ruby River									
Ruby River Sec 01	016360	150	13815	2382	18	1469	625	12.00%	5.36%
Ruby River Sec 02	016380	13	1044	569	6	507	419	46.15%	30.87%
Undesignated R3									
Undesignated Waters R3	003000	22	1919	519	5	560	293	22.73%	19.57%

Table 20. Percentage of Days Fished with an Outfitter for Individual Waters with total Fishing Pressure Greater than 1000 days, March 2013 - February 2014 (continued).

Watercode	Total Trips			Pressure			Error			Percent Days Fished with Outfitter Error (+ or -)	
	Total Trips	Pressure	Error	Outfitter Total Trips	Pressure	Error	Outfitter Total Trips	Pressure	Error	Outfitter Error (+ or -)	
Upper Yellowstone River											
Armstrong Spring Creek	220140	75	8604	2453	20	1607	567	26.67%	10.33%		
Crazy Mountain Ranch Pond or Marlboro Ranch Pond	227580	36	5855	1186	23	3670	866	63.89%	16.57%		
Nelson Spring Creek	224305	22	1708	563	7	477	351	31.82%	21.33%		
Yellowstone River Sec 07B	227058	163	14382	2171	25	2339	772	15.34%	5.66%		
Yellowstone River Sec 08	227071	326	30504	3301	48	4685	937	14.72%	3.89%		
Yellowstone River Sec 09A	227072	367	35031	3931	73	6751	1462	19.89%	4.12%		
Yellowstone River Sec 09B	227073	214	19293	3038	49	4384	1164	22.90%	5.70%		
Yellowstone River Sec 10	227084	192	18617	3377	34	3245	1015	17.71%	5.49%		
Region: 4											
Marias River											
Marias River Sec 01	143240	66	5365	1111	8	726	392	12.12%	8.39%		
Missouri River - Dearborn											
Missouri River Sec 08	174880	560	55805	7121	58	5363	1228	10.36%	2.55%		
Missouri River Sec 09	174896	1858	170850	9285	356	28818	2692	19.16%	1.79%		
Missouri River - Judith											
Missouri River Sec 06b	162522	76	6936	1727	3	201	201	3.95%	5.05%		
Missouri River Sec 07	174864	184	18136	4821	2	200	149	1.09%	1.83%		
Smith River											
Sheep Creek	176544	13	1139	424	2	172	122	15.38%	24.56%		
Smith River Sec 01	176816	55	4395	1162	9	702	469	16.36%	10.38%		
Smith River Sec 02	176832	214	14645	2056	28	1966	761	13.08%	4.61%		
Smith River Sec 03	176833	56	3963	1004	6	563	433	10.71%	8.80%		
Sun River											
Sun River Sec 01	206050	50	4326	1814	5	414	337	10.00%	9.16%		
Sun River Sec 02	206100	107	9107	2449	10	1002	618	9.35%	5.80%		
Teton River											
Bynum Reservoir	147080	51	4882	1319	8	625	625	15.69%	10.67%		
Undesignated R4											
Undesignated Waters R4	004000	31	3469	1327	2	172	122	6.45%	10.64%		
Upper Missouri River											
Hauser Lake - Causeway	179056	357	32548	3828	7	547	547	1.96%	1.54%		
Holter Lake	179136	714	60939	5069	9	832	587	1.26%	0.86%		
Missouri River Sec 10	174913	384	39987	6891	49	3975	964	12.76%	3.37%		
Missouri River Sec 10b	174914	110	14591	5195	19	1479	597	17.27%	7.28%		
Region: 5											
Bighorn River											
Bighorn Lake	229835	74	6571	1484	4	298	223	5.41%	5.77%		
Bighorn River Sec 01	220490	135	12208	2323	54	4412	1095	40.00%	8.39%		
Bighorn River Sec 02	220495	591	52440	4507	242	19252	2281	40.95%	3.98%		
Bighorn River Sec 03	220496	1638	137474	7104	512	38459	3129	31.26%	2.25%		
Yellowtail Afterbay or Bighorn River Afterbay Dam	229834	84	8138	2557	4	336	242	4.76%	5.10%		
Middle Yellowstone River											
Yellowstone River Sec 03	227001	225	20879	3357	3	301	224	1.32%	1.70%		
Yellowstone River Sec 04	227015	192	16410	2618	3	215	157	1.56%	2.02%		
Upper Yellowstone River											
Boulder River Sec 01	220742	144	13959	3194	2	167	121	1.39%	2.33%		
Clarks Fk Yellowstone Sec 2	221176	34	3342	1074	3	292	292	8.82%	11.08%		
Rock Creek Sec 01	224928	191	16201	2855	2	156	156	1.05%	1.76%		
Stillwater River Sec 01	226104	424	38001	5030	11	971	425	2.59%	1.58%		
Yellowstone River Sec 05	227028	187	17267	2781	4	351	208	2.14%	2.31%		
Yellowstone River Sec 06B	227044	186	17135	2787	41	3941	1383	22.04%	6.05%		
Yellowstone River Sec 07A	227057	135	12148	2019	28	2786	936	20.74%	6.99%		

Table 20. Percentage of Days Fished with an Outfitter for Individual Waters with total Fishing Pressure Greater than 1000 days, March 2013 - February 2014 (continued).

	Watercode	Total Trips	Pressure	Error	Outfitter Total Trips	Pressure	Error	Percent Days Fished with Outfitter Error (+ or -)	
Region: 6									
Fort Peck Reservoir									
Fort Peck Reservoir	165140	1166	112130	9704	20	1377	475	1.69%	0.75%
Missouri River - Poplar									
Missouri River Sec 11	174928	59	5912	1535	6	430	323	10.17%	8.37%
Region: 7									
Lower Yellowstone River									
Yellowstone River Sec 01	211350	296	22722	4577	2	259	188	0.68%	1.14%

The seasonality of outfitter usage was examined for the top five waters in terms of total outfitted angler days (Figure 3). The Bighorn, Missouri and Madison rivers were the most pronounced in terms of outfitter usage being highest during the five months from June through October. Both the Big Hole and Bitterroot rivers had outfitter usage in April that rivaled levels in mid-summer, and both rivers also had a distinct lull during August.

The drainage with the highest level of outfitter usage was the Bighorn with 62,934 angler days, followed by the Madison with 39,137 and the Upper Yellowstone with 37,415 (Table 21). Two drainages reported no outfitter usage (the Upper Milk and the Powder rivers) while several others had fewer than 100 days (Musselshell and Tongue rivers).

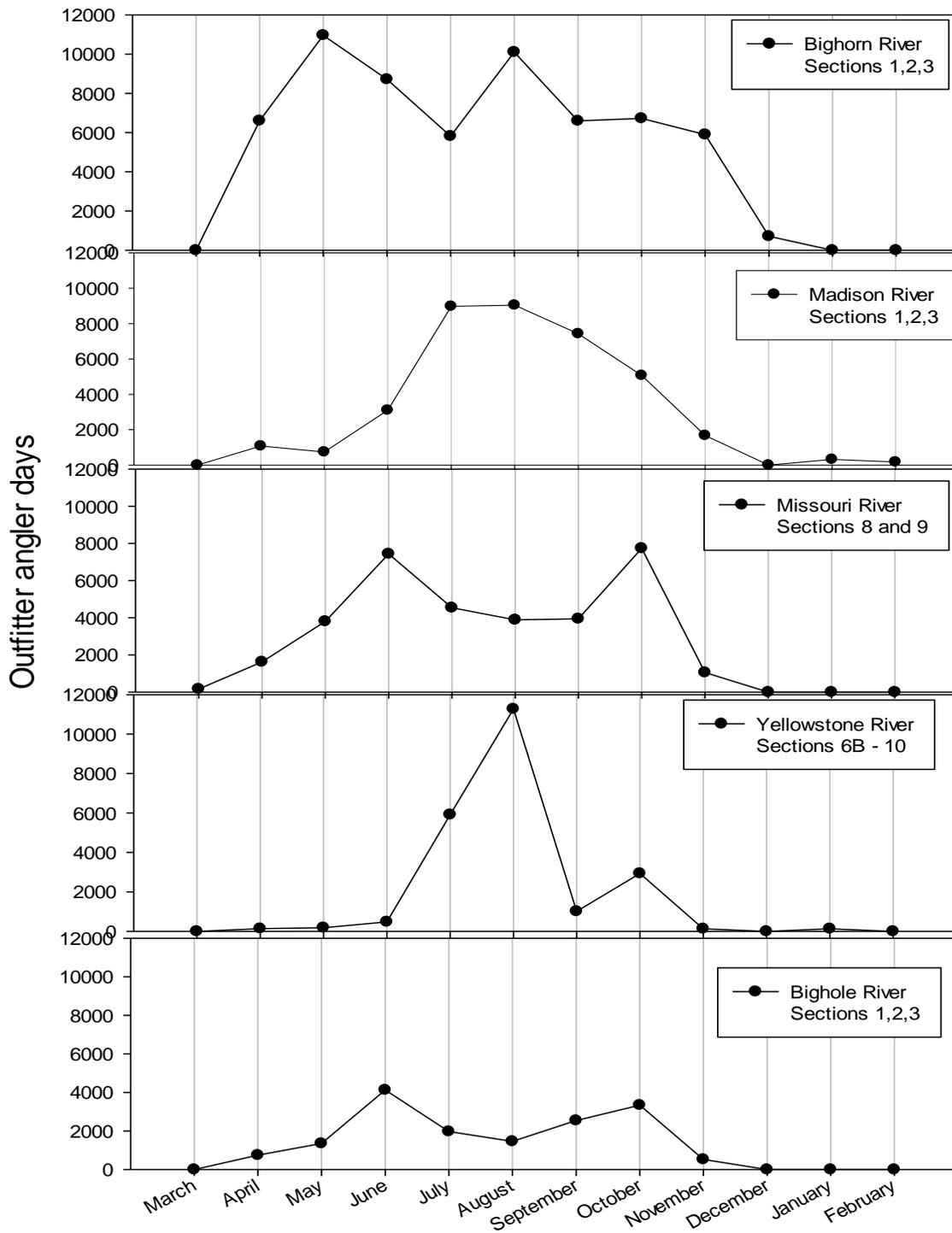


Figure 12. Monthly estimates of number of anglers using an outfitter on the top five river sections in Montana from March 2013-February 2014.

Table 21. Outfitter Angling Pressure in angler days by Drainage by Lake or Stream for the 2013 angling year.

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Beaverhead River						
Lake	0	0	0	0	0	0
Stream	9,670	111	182	2	9,489	109
Total:	9,670	111	182	2	9,489	109
Belt Creek						
Stream	0	0	0	0	0	0
Total:	0	0	0	0	0	0
Big Hole River						
Undesig	0	0	0	0	0	0
Lake	0	0	0	0	0	0
Stream	16,255	198	1,287	16	14,968	182
Total:	16,255	198	1,287	16	14,968	182
Bighorn River						
Lake	633	8	0	0	633	8
Stream	62,301	810	707	8	61,593	802
Total:	62,934	818	707	8	62,226	810
Bitterroot River						
Lake	167	2	0	0	167	2
Stream	16,585	202	517	6	16,068	196
Total:	16,752	204	517	6	16,235	198
Blackfoot River						
Lake	46	1	0	0	46	1
Stream	11,392	130	1,137	13	10,254	117
Total:	11,438	131	1,137	13	10,300	118
Boulder River						
Lake	0	0	0	0	0	0
Stream	0	0	0	0	0	0
Total:	0	0	0	0	0	0
Clark Fork River - Flint / Rock						
Lake	97	1	0	0	97	1
Stream	2,180	28	78	1	2,102	27
Total:	2,278	29	78	1	2,199	28
Flathead River						
Lake	3,698	43	876	9	2,823	34
Stream	5,594	58	902	10	4,692	48
Total:	9,293	101	1,778	19	7,515	82
Fort Peck Reservoir						
Lake	1,377	20	599	8	778	12
Stream	0	0	0	0	0	0
Total:	1,377	20	599	8	778	12
Gallatin River						
Lake	174	1	0	0	174	1
Stream	9,370	89	494	3	8,876	86
Total:	9,543	90	494	3	9,050	87

Table 21. Outfitter Angling Pressure in angler days by Drainage by Lake or Stream for the 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Jefferson River						
Lake	0	0	0	0	0	0
Stream	3,234	37	326	4	2,907	33
Total:	3,234	37	326	4	2,907	33
Kootenai River						
Lake	496	4	0	0	496	4
Stream	2,561	27	0	0	2,561	27
Total:	3,057	31	0	0	3,057	31
Little Missouri River						
Lake	0	0	0	0	0	0
Stream	0	0	0	0	0	0
Total:	0	0	0	0	0	0
Lower Clark Fork River						
Lake	81	1	0	0	81	1
Stream	1,167	14	0	0	1,167	14
Total:	1,248	15	0	0	1,248	15
Lower Milk River						
Lake	0	0	0	0	0	0
Stream	0	0	0	0	0	0
Total:	0	0	0	0	0	0
Lower Missouri River						
Lake	0	0	0	0	0	0
Stream	0	0	0	0	0	0
Total:	0	0	0	0	0	0
Lower Yellowstone River						
Lake	0	0	0	0	0	0
Stream	259	2	0	0	259	2
Total:	259	2	0	0	259	2
Madison River						
Lake	1,478	14	0	0	1,478	14
Stream	37,659	401	3,863	34	33,796	367
Total:	39,137	415	3,863	34	35,274	381
Marias River						
Lake	188	1	188	1	0	0
Stream	793	9	0	0	793	9
Total:	981	10	188	1	793	9
Middle Clark Fork River						
Lake	0	0	0	0	0	0
Stream	7,418	81	188	2	7,231	79
Total:	7,418	81	188	2	7,231	79

Table 21. Outfitter Angling Pressure in angler days by Drainage by Lake or Stream for the 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
Middle Milk River						
Undesig	81	1	0	0	81	1
Lake	0	0	0	0	0	0
Stream	67	1	0	0	67	1
Total:	148	2	0	0	148	2
Middle Yellowstone River						
Lake	0	0	0	0	0	0
Stream	616	7	0	0	616	7
Total:	616	7	0	0	616	7
Missouri River - Dearborn						
Lake	78	1	78	1	0	0
Stream	34,228	415	3,237	33	30,991	382
Total:	34,306	416	3,315	34	30,991	382
Missouri River - Judith						
Lake	0	0	0	0	0	0
Stream	534	6	0	0	534	6
Total:	534	6	0	0	534	6
Missouri River - Poplar						
Lake	0	0	0	0	0	0
Stream	430	6	0	0	430	6
Total:	430	6	0	0	430	6
Musselshell River						
Lake	0	0	0	0	0	0
Stream	78	1	78	1	0	0
Total:	78	1	78	1	0	0
Powder River						
Lake	0	0	0	0	0	0
Stream	0	0	0	0	0	0
Total:	0	0	0	0	0	0
Red Rock River						
Lake	81	1	0	0	81	1
Stream	474	5	0	0	474	5
Total:	556	6	0	0	555	6
Ruby River						
Lake	78	1	78	1	0	0
Stream	2,324	28	78	1	2,246	27
Total:	2,402	29	156	2	2,246	27
Smith River						
Lake	0	0	0	0	0	0
Stream	3,403	45	939	15	2,464	30
Total:	3,403	45	939	15	2,464	30

Table 21. Outfitter Angling Pressure in angler days by Drainage by Lake or Stream for the 2013 angling year (continued).

	--- Totals ---		--- Resident ---		--- Non-Resident ---	
	Pressure	Trips	Pressure	Trips	Pressure	Trips
South Fork Flathead River						
Lake	0	0	0	0	0	0
Stream	1,182	12	89	1	1,093	11
Total:	1,182	12	89	1	1,093	11
Sun River						
Lake	0	0	0	0	0	0
Stream	1,572	17	245	3	1,327	14
Total:	1,572	17	245	3	1,327	14
Swan River						
Lake	434	4	0	0	434	4
Stream	525	6	0	0	525	6
Total:	959	10	0	0	959	10
Teton River						
Lake	625	8	625	8	0	0
Stream	0	0	0	0	0	0
Total:	625	8	625	8	0	0
Tongue River						
Lake	0	0	0	0	0	0
Stream	46	1	0	0	46	1
Total:	46	1	0	0	46	1
Upper Clark Fork River						
Lake	0	0	0	0	0	0
Stream	1,442	17	78	1	1,364	16
Total:	1,442	17	78	1	1,364	16
Upper Milk River						
Lake	0	0	0	0	0	0
Stream	0	0	0	0	0	0
Total:	0	0	0	0	0	0
Upper Missouri River						
Lake	1,467	17	1,467	17	0	0
Stream	5,532	69	234	3	5,298	66
Total:	7,000	86	1,701	20	5,298	66
Upper Yellowstone River						
Lake	4,425	28	754	5	3,670	23
Stream	32,990	357	1,673	19	31,317	338
Total:	37,415	385	2,427	24	34,987	361

3.8. ELECTRONIC QUESTIONNAIRE ANALYSIS

The option to fill out the questionnaire electronically and online was offered to two groups of anglers: those receiving the mailed paper survey beginning with the June remail, and those who had provided an email address when purchasing their fishing license. From both of these efforts, only 2.4% (810 of 34,339) of the responses received were through the website. How successful each of the different approaches was is difficult to determine, because we did not track whether an online response was prompted by receiving the paper or the email survey. However, for the 5 months when there was an online survey but no email, 1.8% responded via online. In the final 4 months of the survey, when there was both an online survey and the option of an email response, 2.4% responded online. This shows that the online solicitation increased the response rate slightly. Regardless, this response rate is still much lower than the overall response rate to the paper survey (45.8-46%, Table 22), and shows a distinct preference for responding to a paper version of the questionnaire.

4.0 DISCUSSION AND ANALYSIS

4.1 SCOPE OF ANGLING PRESSURE

The statewide angling pressure survey was conducted from March, 2013 through February, 2014. Estimates of pressure by residents and nonresidents was for licensed anglers only. This would encompass anglers 12 years of age and older. Spence (1971) found that the unlicensed angler (ages 2- 14) comprised 9% of the pressure on Rock Creek near Missoula. Peterson (1970) found that the unlicensed angler accounted for 21% and 19% of the total number of anglers on Big Spring Creek near Lewistown during 1968 and 1969 respectively. On the Bighorn River near Hardin, Stevenson (1975) found that the unlicensed angler accounted for 14.2% and 15.8% of the total number of anglers during 1972 and 1973 respectively. Fredenberg (1984) found that 10% of the anglers on Bighorn Lake and 13% of the anglers on the Yellowtail Afterbay were unlicensed. It appears that the unlicensed angler makes up between 9% and 21% of the fishing pressure depending on the type of water being fished.

Some angling pressure was obtained on Indian reservations and National Parks within Montana. This pressure was incidental to other fishing trips and only included those anglers that had purchased a Montana fishing license. Since national parks and reservations require different licensing, a complete pressure estimate of waters within those regions was not obtained.

4.2 ACCURACY

4.2.1 Sampling

Samples were drawn and questionnaires sent to the selected anglers as soon as possible. This was usually 1-2 days after the wave being sampled had ended (see discussion under Methods for details). The use of ALS allows for samples to be drawn right after the month has ended, which reduces memory bias and provides a complete coverage of the state.

4.2.2 Pressure

No significant difference was found between the survey results and on-site creel census for rivers for the statewide angling mail surveys conducted from 1982 through 1985 (McFarland, 1989). When both

surveys were conducted simultaneously on lakes and reservoirs, the results again agreed (McFarland, 1989). The same methodology was used in this survey as was used in those conducted from 1982 through 1985 and in 1989 (McFarland, 1991). At the time this report was written, no published results were available for creel census conducted during the same time frame so no direct comparisons could be made.

4.3 RETURN RATES

Return rates (# of respondents / [# of surveys sent – nondeliverables] * 100) were calculated for every wave by residency. The weighted average total return rates for residents and nonresidents were 45.8% and 46% respectively (Table 22).

Wave	Total Return Rates	
	Resident	Nonresident
01	56.66%	36.56%
02	49.72%	48.67%
03	46.95%	48.21%
04	42.69%	47.11%
05	43.48%	46.01%
06	41.97%	46.27%
07	45.28%	47.32%
08	44.59%	49.21%
09	45.65%	46.24%
10	47.46%	43.12%
11	60.60%	41.36%
12	43.62%	36.66%

4.4 NUMBER OF LICENSED ANGLERS VS PRESSURE

The number of resident anglers showed steady increases from 1967 to 1985 (Chart 7, Table 23). Since 1985 when there were 236,455 licensed anglers, the number has remained within 10%, reaching a low of 216,412 in 1989 and a high of 248,945 in 2009 (numbers for 2013 were not available at the time of this writing). The notable decline from 2010 (238,942) to 2011 (228,589) may be theorized to be due to stormy weather in the early summer of 2011 that kept many people indoors. Nonresident licensed angler numbers showed strong growth between 1965 and peak numbers in 2002 (Chart 8), increasing from 51,798 to 220,946 during the period. Nonresident license sales then dropped markedly from 2002 and 2011, when 126,617 anglers purchased licenses. The number of nonresident and resident license holders has increased at a similar pace for the period of record. Between 1965 and 2011, the average annual rate of growth has been 1,870 nonresident anglers/year and 1,912 resident anglers/year.

Comparing statewide angling use from the mail survey versus number of anglers shows general agreement between the two variables, at least in terms of long-term trends. The relationship between angler use and number of anglers has remained remarkably consistent for resident anglers (Chart 7). The trend for non-resident anglers is much different. Number of licensed anglers peaked in 2002 and has declined to a relatively stable level of 150,000-160,000 since 2006. Conversely the angling pressure has increased by 70% since 2007 and 2013 (Chart 8), and indicates a trend toward non-residents spending more days fishing in Montana.

Table 23. - Number of licensed anglers from 1982 through 2012 by residency.

Year	Resident Anglers	Nonresident Anglers
1982	216,689	119,293
1983	217,483	116,875
1984	232,485	102,843
1985	236,455	106,304
1986	235,403	100,456
1987	233,111	103,936
1988	219,299	108,471
1989	216,412	114,254
1990	217,370	119,611
1991	221,723	138,243
1992	222,186	134,212
1993	226,992	151,192
1994	233,630	164,841
1995	227,849	153,887
1996	227,282	150,881
1997	222,442	151,244
1998	222,329	162,067
1999	228,419	162,572
2000	219,282	152,158
2001	216,858	164,470
2002	222,510	220,946
2003	227,562	200,647
2004	223,560	200,562
2005	233,295	185,689
2006	224,526	159,846
2007	228,415	163,088
2008	240,030	155,858
2009	248,945	159,032
2010	238,942	154,184
2011	228,589	126,617
2012	241,519	157,763

Resident Anglers vs Use

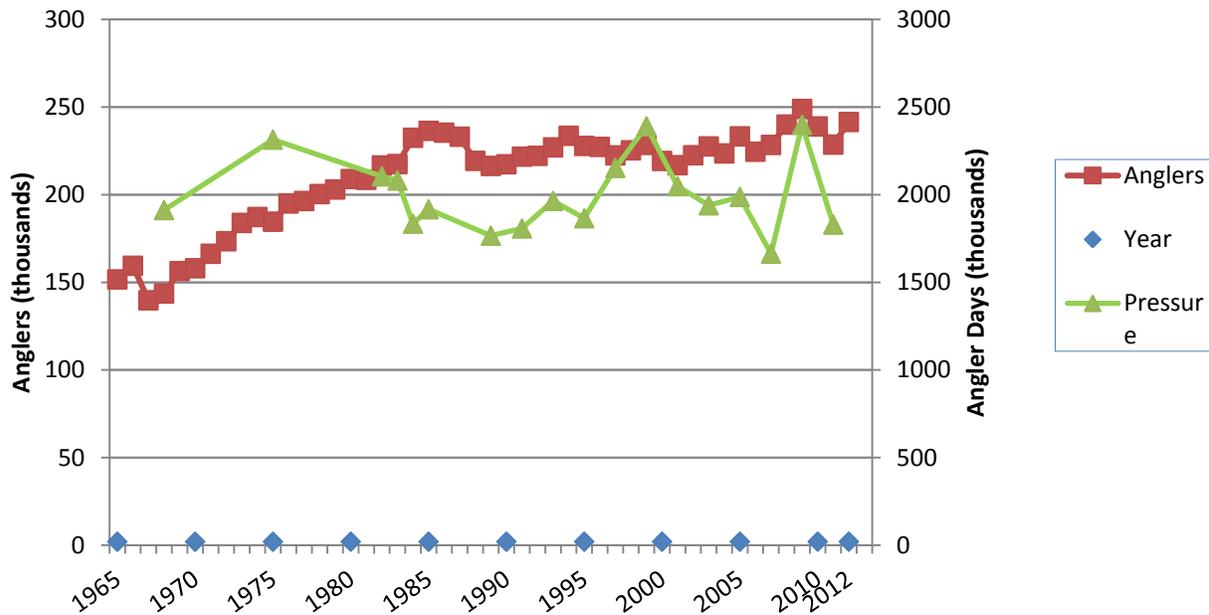


Chart 7. Angling pressure versus number of anglers for residents from 1965 to 2012.

Nonresident Anglers vs Use

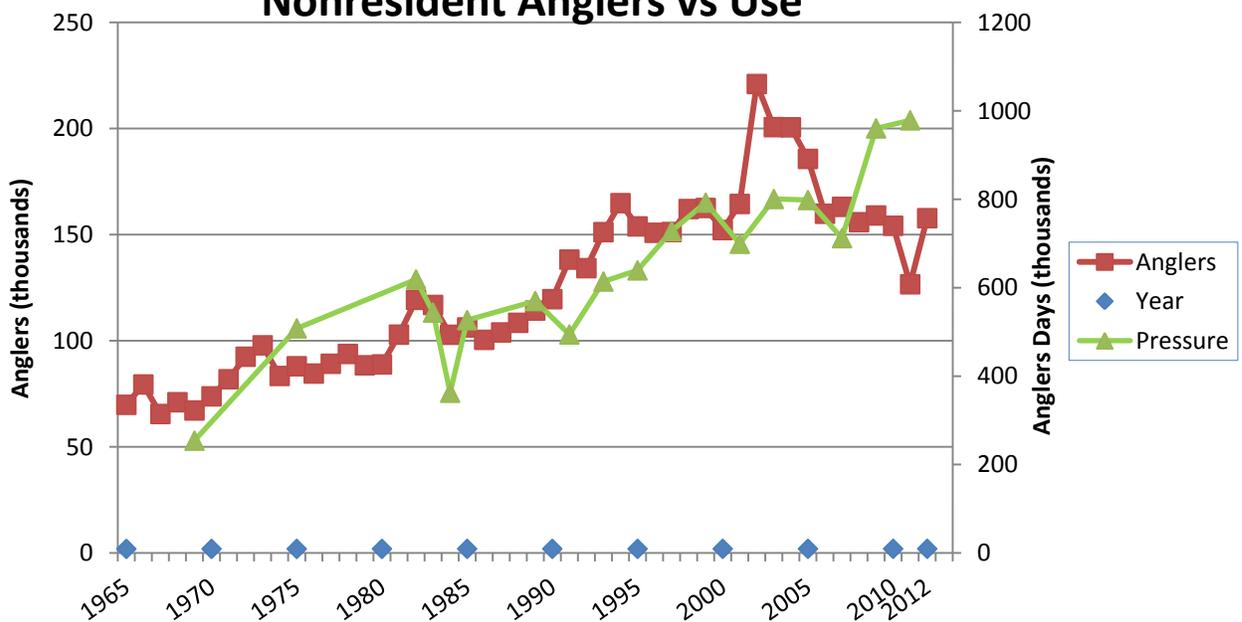


Chart 8. Angling pressure versus number of anglers for nonresidents from 1965 to 2012.

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6.0 EXAMPLES OF QUESTIONNAIRES

The August 2013 questionnaire is an example of an initial mail form, while the February 2014 questionnaire is an example of a re-mail form.

7.0 BOUNDARIES OF WATERS BROKEN INTO SECTIONS

<u>STREAM NAME</u>	<u>WATER CODE</u>	<u>DOWNSTREAM POINT</u>	<u>UPSTREAM POINT</u>
BEAVER CREEK	SEC 01 15-0280	MOUTH	BEAVER CREEK RES.
	SEC 02 15-0320	BEAVER CREEK RES	BEAR PAW LAKE
	SEC 03 15-0340	BEAR PAW LAKE	ROCKY BOY INDIAN R
	SEC 04 15-0360	ROCKY BOY INDIAN RES	HEADWATERS
BIG HOLE R.	SEC 01 02-0425	MOUTH	DIVIDE CREEK
	SEC 02 02-0450	DIVIDE CREEK	PINTLAR CREEK
	SEC 03 02-0475	PINTLAR CREEK	HEADWATERS
BIG SPRING CR.	SEC 01 16-0301	JUDITH RIVER (MOUTH)	COTTONWOOD CREEK
	SEC 02 16-0310	COTTONWOOD CREEK	HEADWATERS
BIGHORN RIVER	SEC 01 22-0490	MOUTH	LITTLE BIGHORN RIVER
	SEC 02 22-0495	L.BIGHORN R	BIG HORN FAS (ACCESS CR)
	SEC 03 22-0496	BIG HORN FAS (ACCESS CR)	AFTERBAY
BITTERROOT R.	SEC 01 03-0475	MOUTH	BIG CREEK
	SEC 02 03-0500	BIG CREEK	HEADWATERS
BLACKFOOT R.	SEC 01 04-0600	MOUTH	CLEARWATER RIVER
	SEC 02 04-0630	CLEARWATER RIVER	N FK BLACKFOOT RIVER
	SEC 03 04-0645	N FK BLACKFOOT RIVER	ARRASTRA CREEK
	SEC 04 04-0660	ARRASTRA CREEK	HEADWATERS
BOULDER RIVER	SEC 01 22-0742	MOUTH	BOULDER FALLS (NAT BRDG)
	SEC 02 22-0756	BOULDER FALLS (NAT BRDG)	BRIDGE CREEK
	SEC 03 22-0770	BRIDGE CREEK	HEADWATERS
CLARK FORK R.	SEC 01 05-1440	IDAHO BORDER	FLATHEAD RIVER
	SEC 02 05-1456	FLATHEAD RIVER	BITTERROOT RIVER
	SEC 03 06-1118	BITTERROOT RIVER	ROCK CREEK
	SEC 04 06-1121	ROCK CREEK	LITTLE BLACKFOOT R
	SEC 05 06-1140	LITTLE BLACKFOOT R	HEADWATERS
CLARKS FK YELLOWSTONE	SEC 01 22-1162	MOUTH	BRIDGER
	SEC 02 22-1176	BRIDGER	WYOMING BORDER
	SEC 03 22-1190	WYOMING BORDER	HEADWATERS
CROW CREEK	SEC 01 07-1000	MOUTH	LOWER CROW RESERVOIR
	SEC 02 07-1020	LOWER CROW RESERVOIR	HEADWATERS
CUT BANK CREEK	SEC 01 14-1080	MOUTH	CUT BANK
	SEC 02 14-1120	CUT BANK	GLACIER PARK
FLATHEAD RIVER	SEC 01 07-1540	MOUTH	FLATHEAD LAKE
	SEC 02 07-1560	FLATHEAD LAKE	S FK FLATHEAD R
GALLATIN RIVER	SEC 01 09-2090	MOUTH	E GALLATIN RIVER
	SEC 02 09-6878	E GALLATIN RIVER	SPANISH CREEK
	SEC 03 09-6916	SPANISH CREEK	HEADWATERS
HYALITE CREEK	SEC 01 09-2546	MOUTH	HYALITE RESERVOIR
	SEC 02 09-6802	HYALITE RESERVOIR	HYALITE LAKE
<u>STREAM NAME</u>	<u>WATER CODE</u>	<u>DOWNSTREAM POINT</u>	<u>UPSTREAM POINT</u>

JUDITH RIVER	SEC 01	16-1800	MOUTH	PLUM CREEK
	SEC 02	16-1820	PLUM CREEK	HEADWATERS
LITTLE BIGHORN RIVER				
	SEC 01	22-3654	MOUTH	LODGE GRASS CREEK
	SEC 02	22-3668	LODGE GRASS CREEK	HEADWATERS
LITTLE BLACKFOOT R				
	SEC 01	06-3772	MOUTH	ELLISTON
	SEC 02	06-3591	ELLISTON	HEADWATERS
MADISON RIVER				
	SEC 01	13-3400	MOUTH	ENNIS DAM
	SEC 02	13-3440	ENNIS LAKE	HEBGEN DAM
	SEC 03	13-3520	HEBGEN LAKE	YELLOWSTONE PARK
MARIAS RIVER				
	SEC 01	14-3240	MOUTH	TIBER DAM
	SEC 02	14-3280	LAKE ELWELL	CUT BANK CREEK
MILK RIVER				
	SEC 01	15-2680	MOUTH	HINSDALE
	SEC 02	15-2720	HINSDALE	MALTA
	SEC 03	15-2760	MALTA	HAVRE
	SEC 04	15-2800	HAVRE	FRESNO DAM
	SEC 05	15-2840	FRESNO RESERVOIR	CANADA
	SEC 06	15-2880	CANADA	MIDDLE & SOUTH FORKS
MISSOURI RIVER				
	SEC 01A	16-2420	N DAKOTA BORDER	POPLAR RIVER
	SEC 01B	16-2421	POPLAR RIVER	MILK RIVER
	SEC 05	16-2500	MILK RIVER	FORT PECK DAM
	SEC 06A	16-2521	FT PECK RES	BLAIN/CHOUT CO LINE
	SEC 06B	16-2522	BLAIN/CHOUT CO LINE	MARIAS RIVER
	SEC 07	17-4864	MARIAS RIVER	MORONY DAM
	SEC 08	17-4880	MORONY DAM	CASCADE BRIDGE
	SEC 09	17-4896	CASCADE BRIDGE	HOLTER DAM
	SEC 10A	17-4913	HOLTER LAKE	HAUSER DAM
	SEC 10B	17-4914	HAUSER LAKE	CANYON FERRY DAM
	SEC 11	17-4928	CANYON FERRY RES	TOSTON DAM
	SEC 12	17-4944	TOSTON DAM	HEADWATERS
MUSSELSHELL RIVER				
	SEC 01	18-4320	MOUTH	RT 3 BRIDGE NEAR LAVINA
	SEC 02	18-4350	RT 3 BRIDGE NEAR LAVINA	HEADWATERS
POPLAR RIVER				
	SEC 01	16-2820	MOUTH	E FK POPLAR RIVER
	SEC 02	16-2375	E FK POPLAR RIVER	CANADA
PRYOR CREEK				
	SEC 01	22-4802	MOUTH	PRYOR
	SEC 02	22-4816	PRYOR	HEADWATERS
RED ROCK RIVER				
	SEC 01	01-6140	MOUTH	LIMA DAM
	SEC 02	01-6160	LIMA RESERVOIR	UPPER RED ROCK LK
ROCK CREEK				
	SEC 01	06-5263	MOUTH	HOGBACK CREEK
	SEC 02	06-5282	HOGBACK CREEK	HEADWATERS
STREAM NAME	SEC	WATER CODE	DOWNSTREAM POINT	UPSTREAM POINT

ROCK CREEK	SEC 01	22-4928	MOUTH	W FK (CHROME CAMP)
	SEC 02	22-4956	W FK (CHROME CAMP)	HEADWATERS
RUBY RIVER	SEC 01	01-6360	MOUTH	RUBY RESERVOIR
	SEC 02	01-6380	RUBY RESERVOIR	HEADWATERS
SHIELDS RIVER				
	SEC 01	22-5334	MOUTH	CLYDE PARK
	SEC 02	22-5348	CLYDE PARK	WILSALL
	SEC 03	22-5362	WILSALL	HEADWATERS
SMITH RIVER	SEC 01	17-6816	MOUTH	HOUND CREEK
	SEC 02	17-6832	HOUND CREEK	CAMP BAKER
	SEC 03	17-6833	CAMP BAKER	HEADWATERS
STILLWATER R	SEC 01	22-6104	MOUTH	WEST FORK (NYE)
	SEC 02	22-6118	WEST FORK (NYE)	HEADWATERS
SUN RIVER	SEC 01	20-6050	MOUTH	MUDDY CREEK
	SEC 02	20-6100	MUDDY CREEK	GIBSON DAM
SWAN RIVER	SEC 01	07-4560	MOUTH	SWAN LAKE
	SEC 02	07-4580	SWAN LAKE	HEADWATERS
TETON RIVER	SEC 01	14-6000	MOUTH	CHOTEAU
	SEC 02	14-6040	CHOTEAU	HEADWATERS
THOMPSON RIVER				
	SEC 01	05-7248	MOUTH	BEND RANGER STATION
	SEC 02	05-7264	BEND RANGER STATION	HEADWATERS
TONGUE RIVER				
	SEC 01	21-1150	MOUTH	BEAVER CREEK
	SEC 02	21-1200	BEAVER CREEK	TONGUE RIVER DAM
	SEC 03	21-1250	TONGUE RIVER RES	WYOMING BORDER
W FK STILLWATER R				
	SEC 01	22-6664	MOUTH	IRON CREEK
	SEC 02	22-6678	IRON CREEK	HEADWATERS
YAAK RIVER	SEC 01	11-7740	MOUTH	FALLS
	SEC 02	11-7760	FALLS	HEADWATERS
YELLOWSTONE R.				
	SEC 01	21-1350	N DAKOTA BORDER	POWDER RIVER
	SEC 02	21-1400	POWDER RIVER	BIGHORN RIVER
	SEC 03	22-7001	BIGHORN RIVER	HUNTLEY DIVERSION
	SEC 04	22-7015	HUNTLEY DIVERSION	CLARKS FORK RIVER
	SEC 05	22-7028	CLARKS FORK RIVER	STILLWATER RIVER
	SEC 06A	22-7043	STILLWATER RIVER	REED POINT BRIDGE
	SEC 06B	22-7044	REED POINT BRIDGE	BOULDER RIVER
	SEC 07A	22-7057	BOULDER RIVER	SPRINGDALE
	SEC 07B	22-7058	SPRINGDALE	SHIELDS RIVER
	SEC 08	22-7071	SHIELDS RIVER	PINE CREEK
	SEC 09A	22-7072	PINE CREEK	EMIGRANT BRIDGE
	SEC 09B	22-7073	EMIGRANT BRIDGE	TOM MINER CREEK
	SEC 10	22-7084	TOM MINER CREEK	GARDINER